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ABSTRACT

This report consists of three documents: the report proper, the abstract, and appendixes. The major objective of the project was to demonstrate the adaptability of the IPI System (Individually Prescribed Instruction) to the needs of ABE centers. This was accomplished by field testing the IPI program, modified for adults, in a number of ABE centers. The tests indicate that administrative and teacher training programs must be modified, and a variety of materials distribution and organizational models are needed to meet the requirements of the different ABE centers. The "streamlining" of the elementary program resulted in: the new ILA (Individualized Learning for Adults) Mathematics Continuum, presented in five areas rather than 13; the average number of pages in a skill booklet has been reduced; and the Placement Testing procedures have been simplified. The program has also been broadened to include an Applications Area, and the upper level of all areas include topics to assist the student in preparing for the GED examination. The Reading program is being extended into a Communications Skills program. Data collected for the evaluation served four purposes: Description of the Field Test Sites; Evaluation of the Implementation of the IPI System; Program Content Modification; and Estimation of Student Gain. Results of the ILA Mathematics Achievement Test show that students do learn in the Adult-IPI system. (Author/DB)

FINAL REPORT

CONTINUATION OF APPLYING THE INDIVIDUALLY PRESCRIBED INSTRUCTION SYSTEM TO ABE PROGRAMS IN NEVADA AND OTHER FIELD TEST SITES

RESEARCH FOR BETTER SCHOOLS, INC.

JAMES BECKER, Executive Director
ROBERT SCANLON, Program Director
DONALD DEEP, Project Director
EUGENIA SCHARF, Project Evaluator

JUNE 30, 1971

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THE PROJECT REPORTED HEREIN WAS SUPPORTED BY A GRANT FROM THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION, GRANT NUMBER OE6-0-70-5161 (324) ADULT EDUCATION ACT, SECTION 309 (b)

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PURPOSE OF PROJECT

The project objectives were:

Broaden the pilot program in Nevada in order to field test the Adult-IPI materials in a wide variety of ABE sites.

Continue development of the instructional materials in order to produce a more effective system of individualized learning for adults. The system will include Mathematics and an expanded reading segment to be termed Communications Skills.

Develop strategies and materials for teacher training.

Develop a research design for evaluation of the project.

A project definition is provided on the following page to help establish the objectives within the total system.

Project Definition FY 71

Adult-IPI

OBJECTIVES	PERSONNEL	FACILITIES	EVALUATION	FINAL REPORT TO U.S.O.E.
Broaden the pilot program in Nevada in order to field test the Adult-IPI materials in a wide variety of ABE sites.	Project Director	Research for Better Schools, Inc.	Curriculum Materials	Abstract
	Project Coordinator	Clark County School District, Nevada	Student Achievement	Purpose of Project
Continue development of the instructional materials in order to produce a more effective system of individualized learning for adults.	Research Associate (2)		Training Materials	Methodology
	Curriculum Specialists (3)			Summary of Findings
Develop strategies and materials for teacher training.	Part-time Writers (10)			Recommendations and Conclusions
Develop a research design for evaluation of project.	Media Specialist (1)			
	Secretaries (2)			
	Part-time Typists (5)			

BACKGROUND OF PROJECT

The heterogeneity of adult learners in ABE classes has created a need for an individualized learning program that can meet the specific goals of students. The frequently erratic attendance of adults, the fact that many have experienced failure so often that they are not conditioned to expect success, and the lack of relevant learning materials, have all contributed to the problem. Educators agree that there is a nationwide need for curriculum materials that are incorporated into an easily managed instructional system that allows for the accurate diagnosis of each student's learning needs.

In the spring of 1967, the Clark County, Nevada Adult Basic Education Program, like so many other programs throughout the country was faced with the problem of teaching adults basic reading and mathematics skills within a short period of time. In searching for materials, Clark County felt that they could best serve their students by using the elementary Individually Prescribed Instruction Program (IPI) which was being implemented throughout the country with the assistance of Research for Better Schools, Inc. (RBS), an educational laboratory, funded in part by U.S.O.E.

Individually Prescribed Instruction is a system of education which leads to the mastery of performance objectives in the areas of Mathematics and Reading. It includes planning and conducting a program of studies tailored to the specific learning needs of each student. Among the many system components are the following: placement or entrance tests, pretests, curriculum embedded tests, post-tests; self-instructional materials, a variety of instructional

settings and multi-media modes of instruction; a support system for coordinator, instructor and aide training; and an informational feedback system designed to measure individual progress and to improve the total system. It was felt that the IPI model and materials could be modified for adult use thus producing an economical program for ABE students throughout the country.

Under the IPI system:

a. a student could start in the program at any time and not have to wait for the beginning of a "session"

b. a student could attend class at his convenience and never have to worry about falling behind

c. a student who wanted to master a particular skill could do so without having to waste time on materials for which he had neither need nor interest

d. the student could transfer from one IPI center to another and still maintain continuity in moving smoothly toward his goal

e. at any moment it would be possible to determine the exact amount of progress made by a student from the time of his entrance into the program

f. the direct interaction between student and teacher would inevitably result in a more personalized learning situation

The U.S. Office of Education, under Section 309(b) of the Adult Education Act funded Research for Better Schools, Inc. to field test the partially revised IPI program during the 1970-71 school year, and to redevelop the program materials into a <u>new</u> system (which will be called Individualized Learning for Adults, or ILA) by September 1971. See Tables 1 and 2 for the 1970-71 Mathematics and Reading Continuums. Tables 3 and 4 show the Mathematics and Communications Skills continuums for 1971-72.

TABLE 1

1970-71 MATHEMATICS CONTINUUM

AREA	Number of Skills in Each Unit LEVEL A	B	C	D	E	F	G	H
Numeration	12	10	8	5	8	3	8	6
Place Value		3	5	9	7	5	2	1
Addition	3	10	5	8	6	2	3	3
Subtraction			4	5	3	1	3	1
Multiplication				8	11	10	6	3
Division				7	7	8	5	5
Combination of Processes			6	5	7	4	5	5
Fractions	3	2	4	5	6	14	5	1
Money		4	4	6	3	2		
Time		3	2	10	9	5	3	
Systems of Measurement		4	3	5	7	3	2	
Geometry		2	2	3	9	10	7	6
Special Topics			1	3	3	5	4	3
TOTAL (424)	18	38	44	79	86	72	53	34

TABLE 2

1970-71 READING CONTINUUM

Number of Skills in Each Unit

AREA	LEVEL										
	A	B	C	D	E	F	G	H	I	J	K
Phonetic											

Phonetic Analysis	8	8	11	4							
Structural Analysis	2	5	4	7	5	6	4	4	3	4	4
Vocabulary Development	2	3	3	3	3	2	2	2	2	2	2
Literal Comprehension	3	3	2	2	3	3	4	3	1	4	3
Interpretive Comprehension	1	2	4	3	5	4	5	5	4	4	3
Evaluative Comprehension		3	2	3	2	3	4	3	4	4	4
Library Skills			3	1	2	3	4	4	4	2	
Organizational Skills						4	3	2	2	4	3
Reference Skills		1			7	5	5	2	4	3	2
TOTAL (278)	16	25	29	23	27	30	31	25	24	27	21

TABLE 3

1971-72 ILA MATHEMATICS CONTINUUM

AREA	Number of Skills in Each Unit LEVEL A	B	C	D	E	F	G	H
Numeration - Place Value	11	10	6	10	9	8	4	4
Addition - Subtraction	3	7	7	14	16	8	5	2
Multiplication - Division			9	10	11	11	7	3
Geometry - Measurement		2	6	11	10	13	5	8
Applications	4	4	5	5	6	7	6	11
TOTAL * (278)	18	23	33	50	52	47	27	28

* Estimated

TABLE 4

ILA COMMUNICATIONS SKILLS

AREAS	LEVELS OF DIFFICULTY										
	A	B	C	D	E	F	G	H	I	J	K
WORD RECOGNITION											
Phonic Analysis											
Structural Analysis											
COMPREHENSION											
Vocabulary Development											
Literal Comprehension											
Interpretive Comprehension											
Evaluative Comprehension											
STUDY SKILLS											
Library Skills											
Reference Skills											
Organizational Skills											

PROCEDURES

1. Selected ABE sites were designated as field test sites for Adult-IPI Mathematics and Reading continuums. (See Appendix for exact locations.)

2. Training Manual for Adult-IPI was prepared.

The Manual:

Provided a brief overview of individualized instruction:

Presented an overview of the content and materials used in the Mathematics and Reading programs.

Presented the mechanics of prescription writing.

Offered suggestions for managing the learning situation in such a way that successful learning experiences result.

Explained the experimental nature of the IPI project and defined the obligations of the field test sites.

3. Administrative Training Conference was held. (See Appendix for list of participants)

4. Administrators were given assistance (both materials and staff time) as they conducted teacher training conferences in their own localities.

5. Adult-IPI materials were distributed.

The Adult-IPI Mathematics and Reading program, built upon two hierarchies of specific educaticnal objectives and designed to optimize the opportunities for individualization of instruction, contain a huge amount of material. Excluding such simple one

page items as the Mathematics and Reading Placement and Student Profile forms and the Prescription Sheets, 2,088 individual components had to be written, typed, proofed, printed and shipped out to the various field-test sites.

Given this tremendous number of individual pieces, considerable thought was devoted to the question of how much of each one (of the 2,088 components) a given site would need to run the program for a year. With practically no information of where a typical ABE student would place in a program originally developed for elementary school children, the most reasonable model seemed to be that of a normal distribution. That is, approximately 67% of the students in an "average" ABE center would place within the middle levels of the two Continuums; another 28% would place at the low-middle and high-middle level; and 5% or so would place at the extreme low and extreme high levels.

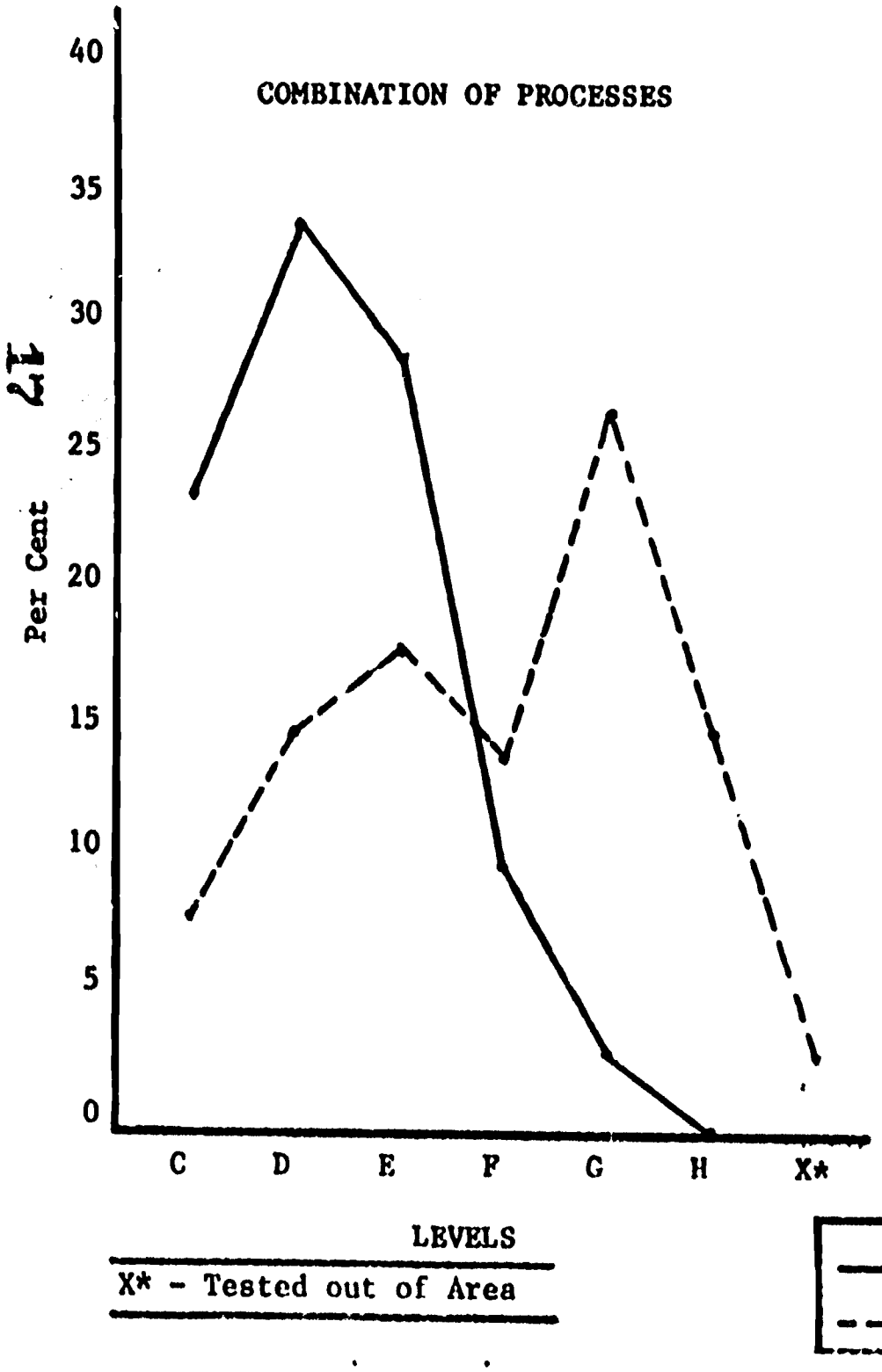
Accordingly, a distribution model based on the projected needs per 100 students was worked out, and sufficient materials were printed for the estimated 2,500 students that would be involved in the program within the course of a year. See Figure 1 for actual distribution in two ABE sites.

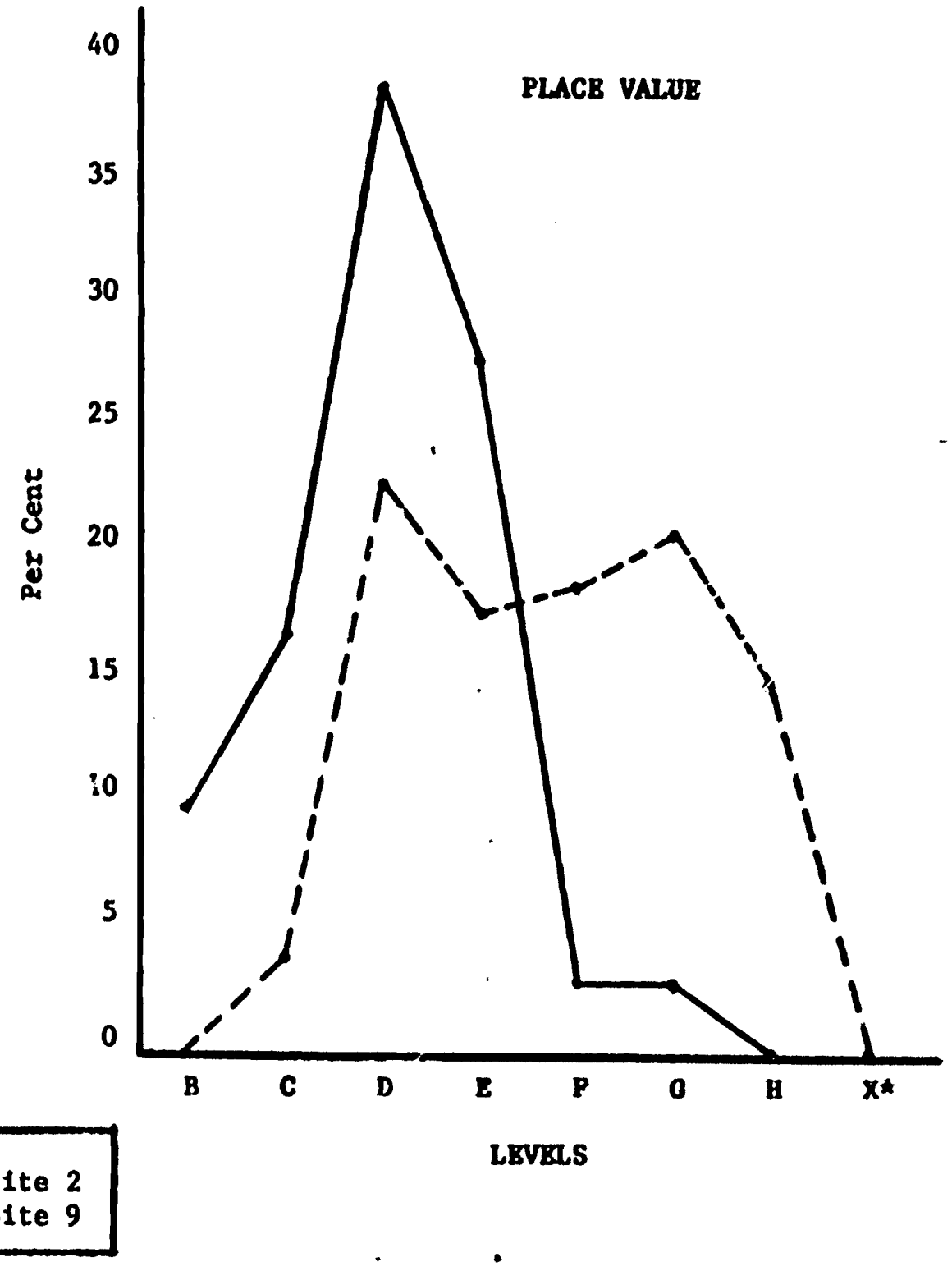
6. Consultants visited sites and evaluated implementation and program management.

7. Materials evaluation forms were devised and sent to IPI teachers so that they could assist in evaluating program content.

Fig. 1

COMPARISON OF PLACEMENT LEVELS OF TWO ABE SITES (2,9)
ON TWO AREAS OF THE MATHEMATICS CONTINUUM





COLLECTION AND EVALUATION OF DATA

Procedures

The primary goal of the 1970-71 Evaluation was to obtain data relevant to program development. The needed information was obtained by means of the following instruments:

1. Data Collected for Description of the Field-Test Sites
   a. Description of Adult-IPI Field-Test Sites
   b. Teacher Biographical Data form
   c. Student Biographical Data form

2. Data Collected for Evaluation of the Implementation of the IPI System
   a. Placement Profiles*
   b. Prescription Sheets

3. Data Collected for Program Content Modification
   a. Error and Problem Report forms
   b. Verbal Comments by Participants

---

* Upon entering the program, each student takes a Placement Test which places him at the appropriate Level of an Area in each Continuum. The scores are recorded on the student's Placement Profile. The student should begin work in that Area in which he has placed at the lowest Level.

4. Data Collected for Estimation of Student Gain in the Program

Data collection procedures were:

1) The form, Description of Adult-IPI Field Test Sites, was completed for most of the sites at the Administrative Training Conference in September 1970.

2) Upon completion of Placement Testing in each site, the Mathematics and Reading Placement Profiles for each student, together with his Student Biographical Data form, were to be sent to RBS. The Teacher Biographical Data were to be sent in at the same time.

3) Each student was assigned an ID Code. Approximately once a month, field-test sites were to send in a Periodic Profile Report for each student in the program. The difference between the first of these and the Placement Test scores would represent the first measure of gain; additional measures could be obtained by subtracting each month's Periodic Profile Report scores from the subsequent one; and a total gain measure could be obtained by subtracting the initial Placement scores from the final Periodic Profile Report.

4) Prescription Sheets were to be sent to RBS upon request.

5) Error and Problem Report forms were sent in as completed

Findings

Due to the variable delays in beginning the program (caused by delays in materials distribution, shelving arrangements, lack of students, etc.) many sites were unable to fully cooperate in the various data collection procedures. The needed information was obtained but on a random sampling basis. That is, sites sending in one or two of the required forms did not necessarily send in the others.

1. Data Collected for Description of the Field-Test Sites

a. Description of Adult-IPI Field-Test Sites

The form used for obtaining a description of the field-test sites can be found on page 16. A list of the sites using the program during the year can be found in the Appendix.

b. Teacher Biographical Data

The form used for obtaining this infomation can be found on page 17. A total of thirty teachers from eight sites were asked to return the form. The data (shown in Figures 2a and 2b) indicate that they are generally representative of ABE teachers, in terms of sex, age, race, education and teaching experience. The data is useful in that one knows that the types of problems experienced by these teachers would probably be experienced by most teachers, and that the solutions to these problems are similarly generalizable.

ADULT-IPI PROGRAM: DESCRIPTION OF
FIELD TEST SITES

1. Name of Site: _____
2. Mailing Address: _____
_____
3. Street Address (if different): _____
_____
4. Name of IPI Coordinator: _____
   a. Telephone Number: _____
   b. Hours Available: _____

---

5. Number of Teachers in the IPI Program: _____
6. Number of Classes in the IPI Program: _____
7. Time, Days of IPI Classes: _____
8. Hours of IPI per Week per Student: _____
   a. Will students be permitted to work at home? _____
   b. Any limits to amount? _____

---

9. Description of Area (urban, rural....): _____
_____
_____
10. Description of Students (age group, socio-cultural-economic, reasons for attendance, etc.) _____
_____
_____
11. Description of Site and of IPI Classroom Locations): _____
_____
_____

---

12. What is the best way to get to the site from Philadelphia? _____
_____
_____
13. Where is the best, most convenient place to stay on site visits? _____
_____
_____
14. Dates of Training Sessions: _____ No. Participants: _____

ADULT-IPI

TEACHER BIOGRAPHICAL INFORMATION

1. Name of State: _____

2. Name of Center: _____

3. Name of Teacher: _____

4. Sex:

   (1) ___ Male
   (2) ___ Female

5. Age Group:

   (1) ___ 20-29 years
   (2) ___ 30-39 years
   (3) ___ 40-49 years
   (4) ___ 50-59 years
   (5) ___ 60 years or over

6. Race: _____

7. Educational Background:

   (1) ___ below BA
   (2) ___ BA
   (3) ___ MA
   (4) ___ above MA

8. Teaching Experience at Center:

   (1) ___ 0-1 year
   (2) ___ 1-2 years
   (3) ___ 2-3 years
   (4) ___ 3-4 years
   (5) ___ 4-8 years
   (6) ___ 8-12 years
   (7) ___ 12-16 years
   (8) ___ more than 16 years

9. Teaching Experience in Adult Educ.

   (1) ___ 0-1 year
   (2) ___ 1-2 years
   (3) ___ 2-3 years
   (4) ___ 3-4 years
   (5) ___ 4-8 years
   (6) ___ 8-12 years
   (7) ___ 12-16 years
   (8) ___ more than 16 years

10. Teaching Experience

    (1) ___ 0-1 year
    (2) ___ 1-2 years
    (3) ___ 2-3 years
    (4) ___ 3-4 years
    (5) ___ 4-8 years
    (6) ___ 8-12 years
    (7) ___ 12-16 years
    (8) ___ more than 16 years

11. How many times a week does each class group attend the Center?

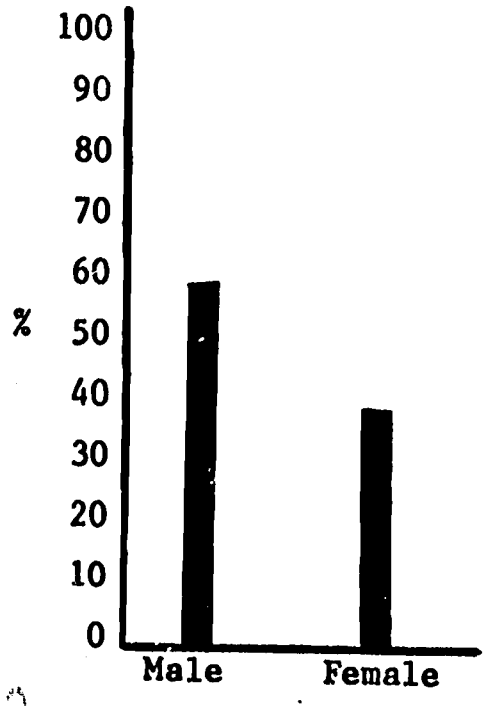
    (1) ___ 1
    (2) ___ 2
    (3) ___ 3
    (4) ___ 4
    (5) ___ 5
    (6) ___ 6

12. How many class groups are you presently teaching?

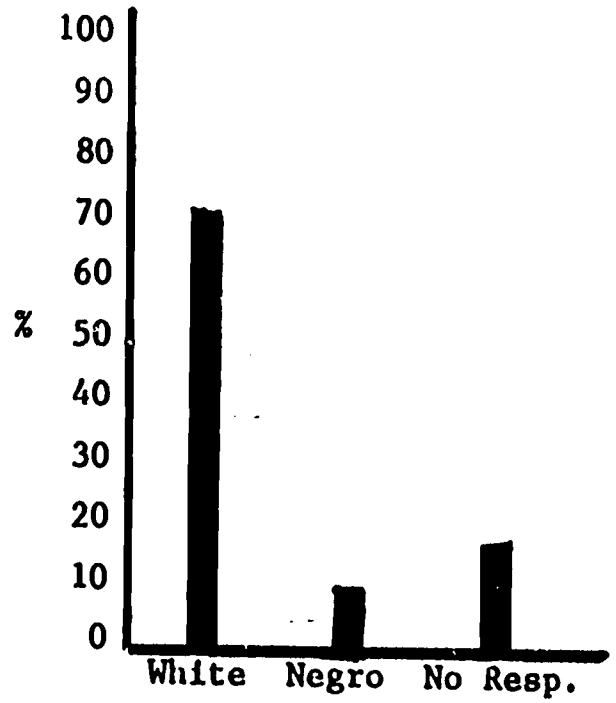
    (1) ___ 1
    (2) ___ 2
    (3) ___ 3
    (4) ___ 4
    (5) ___ 5
    (6) ___ 6
    (7) ___ 7 or more

FIELD-TEST SITES: TEACHER BIOGRAPHICAL DATA

No. of Sites = 8

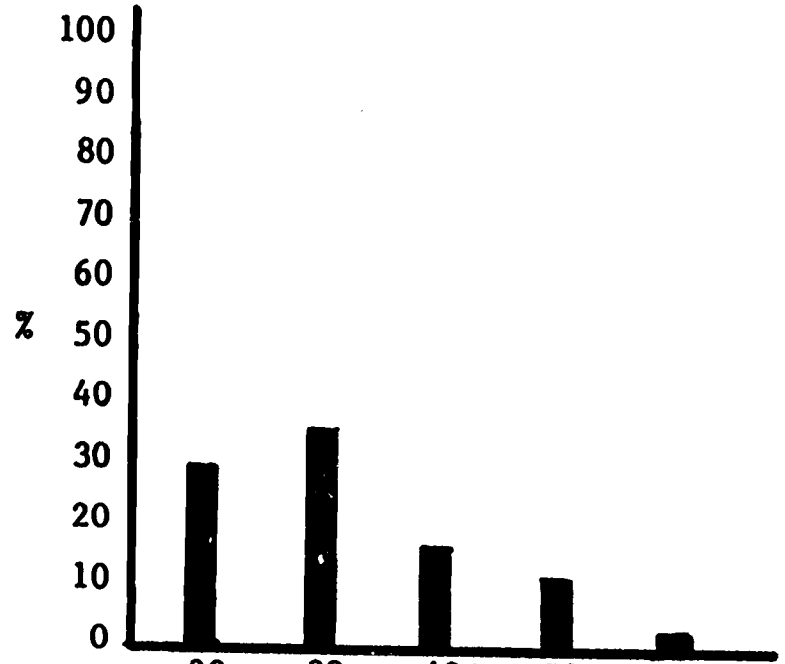


SEX

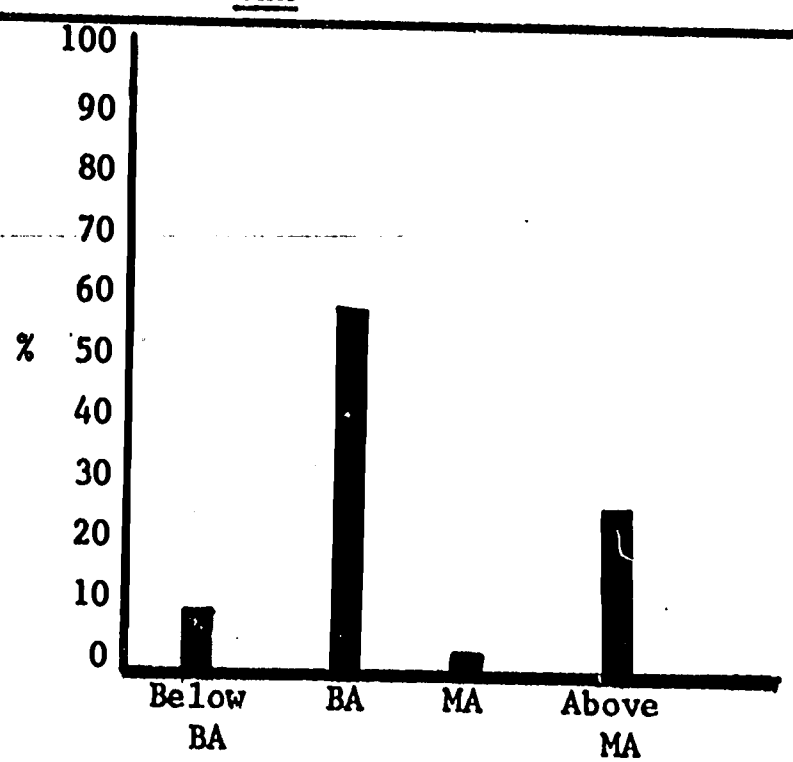


RACE

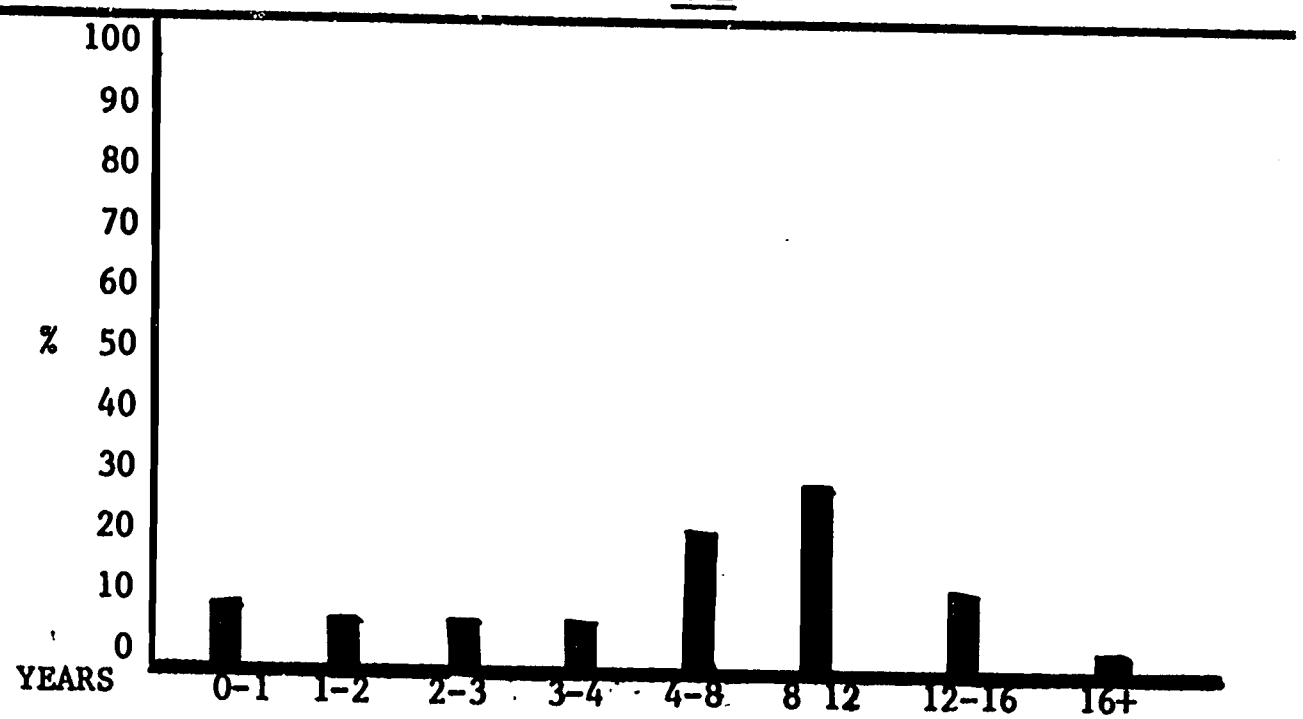
No. of Teachers = 30



AGE



EDUCATIONAL BACKGROUND

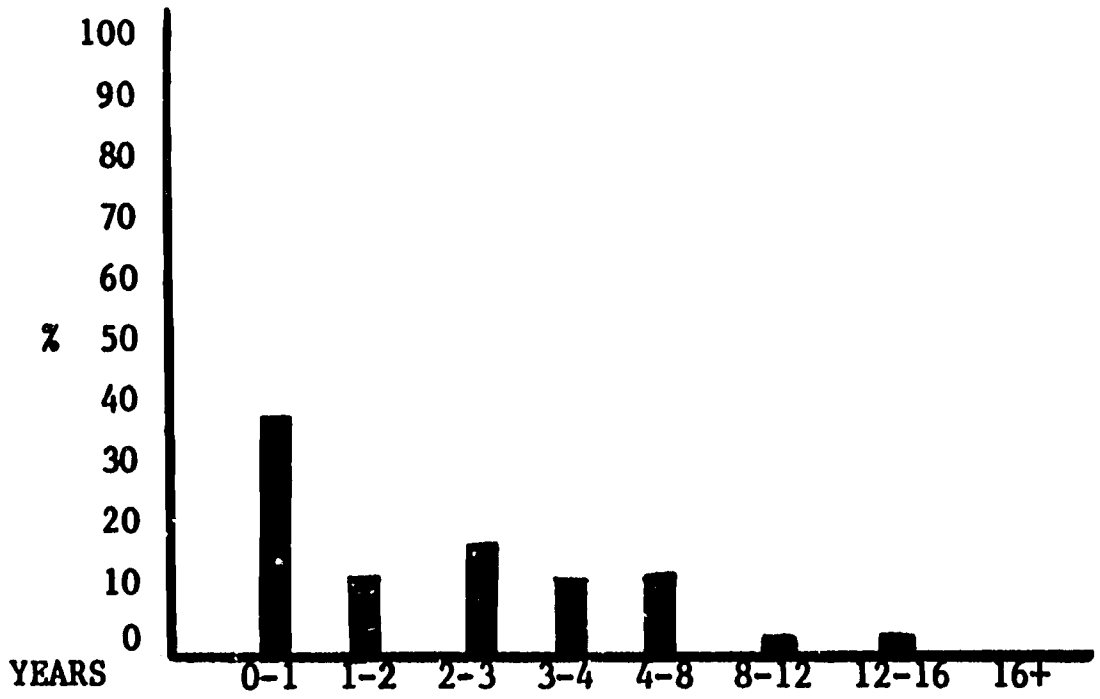


TEACHING EXPERIENCE

Fig. 2a

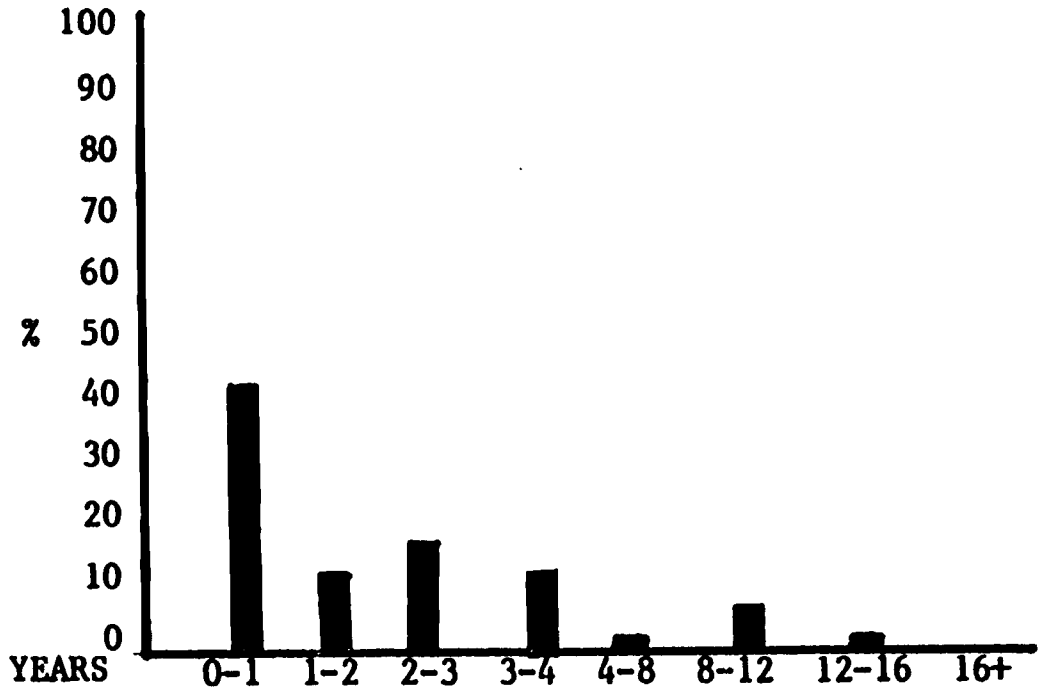
FIELD-TEST SITES: TEACHER BIOGRAPHICAL DATA

No. of Sites = 8

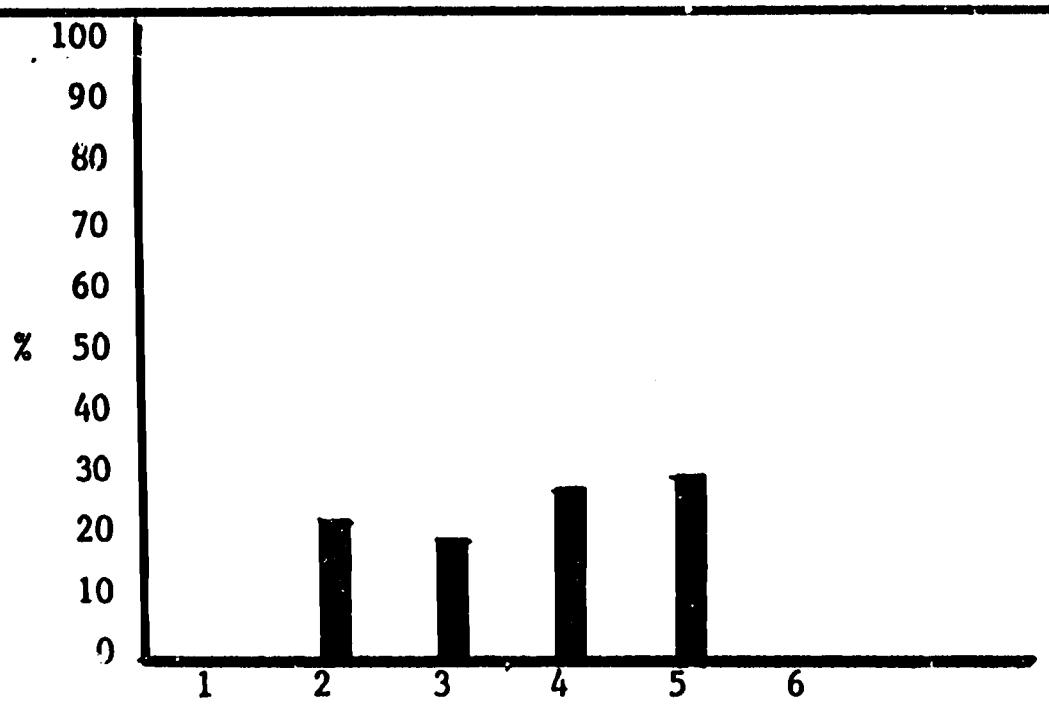


TEACHING EXPERIENCE IN ADULT EDUCATION

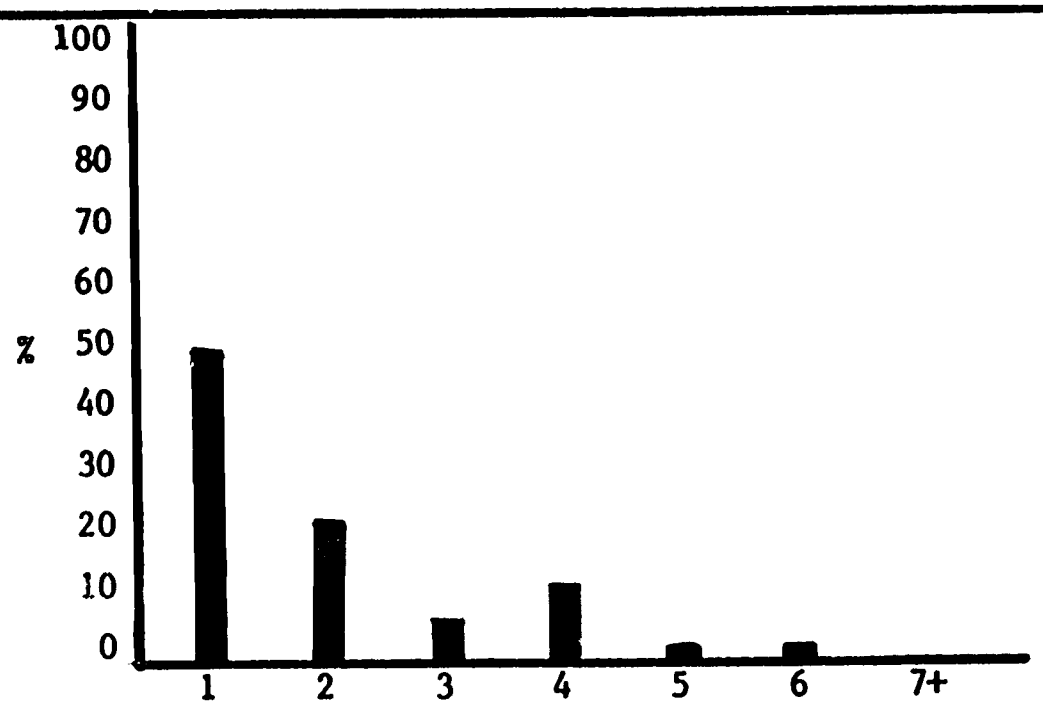
No. of Teachers = 30



TEACHING EXPERIENCE AT CENTER



NUMBER OF CLASS SESSIONS PER WEEK



NUMBER OF CLASS GROUPS TAUGHT

Fig. 2b

c. Student Biographical Data

All participants in the Adult-IPI program were required to complete the Office of Education Participant Information form: all those received have been forwarded to Washington. The form can be found on page 21. For our purposes, only the following pieces of information have been extracted:

1) Sex
2) Date of Birth
3) Is English the Primary Language Spoken in the Home?
4) Race
5) Highest Grade Level Completed in School
6. Reason for Participation

As was the case in the Teacher Biographical Data, the distributions (as shown in Figures 3a and 3b) indicate that the Adult-IPI program was used by a generally representative sample of the ABE population. One somewhat surprising finding was that over half of the students in the sample had had eight or more years of formal schooling.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

SPECIAL EXPERIMENTAL DEMONSTRATION PROJECT
ADULT EDUCATION ACT OF 1966, Section 309(b), Title III, P.L. 89-750
PARTICIPANT INFORMATION

FORM APPROVED
BUDGET BUREAU NO. 51-R0781

U.S. OE CONTRACT OR GRANT NUMBER

FISCAL YEAR OF AWARD

The teacher, counselor, or other staff member will interview and fill out this form for each participant of an Adult Basic Education Special Experimental Demonstration Project which is supported by the Office of Education under authority of Section 309(b) of the Adult Education Act of 1966 *(Title III, P.L. 89-750)*. Within two weeks after the participant enrolls in the project, the project director will forward this form to: DHEW/U. S. Office of Education, Bureau of Adult, Vocational, and Technical Education, Washington, D.C. 20202.

PART I - PARTICIPANT DATA

1. NAME OF PARTICIPANT *(Print or type)*

1a. ADDRESS *(Number, street, city, State and ZIP code)*

2. SOCIAL SECURITY NUMBER

3. SEX
A. ☐ MALE B. ☐ FEMALE

1b. COUNTY

1c. CONGRESSIONAL DISTRICT

4. DATE OF BIRTH
MONTH | YEAR

5. U.S. CITIZEN
A. ☐ YES B. ☐ NO

6. MILITARY SERVICE *(If veteran, give discharge date)*
A. ☐ VETERAN A(1) DISCHARGE DATE: _____
B. ☐ REJECTEE C. ☐ OTHER NON-VET

7. MARITAL STATUS
A. ☐ NEVER MARRIED
B. ☐ MARRIED C. ☐ WIDOW/WIDOWER
D. ☐ DIVORCED/LEGALLY SEPARATED

8. HEAD OF FAMILY OR HOUSEHOLD
A. ☐ YES B. ☐ NO

9. PRIMARY WAGE EARNER
A. ☐ YES B. ☐ NO

10. IS ENGLISH THE PRIMARY LANGUAGE SPOKEN IN THE HOME
A. ☐ YES B. ☐ NO

11. LANGUAGE REGULARLY SPOKEN IN THE HOME *(Other than English)*

12. UNEMPLOYED INSURANCE CLAIMANT *(Check one)*
A. ☐ YES B. ☐ NO C. ☐ EX-HAUSTEE

13. PUBLIC ASSISTANCE RECIPIENT
A. ☐ YES B. ☐ NO

14. RACE *(Check one)*
A. ☐ WHITE
B. ☐ NEGRO
C. ☐ AMERICAN INDIAN
D. ☐ ORIENTAL
E. ☐ OTHER

15. IF SPANISH SURNAME *(Check one)*
A. ☐ CUBAN
B. ☐ MEXICAN-AMERICAN
C. ☐ PUERTO RICAN
D. ☐ OTHER

16. NUMBER OF DEPENDENTS
A. ☐ 0 D. ☐ 3 G. ☐ 6 AND OVER
B. ☐ 1 E. ☐ 4
C. ☐ 2 F. ☐ 5

17. HANDICAPPED
A. ☐ YES B. ☐ NO

18. HIGHEST GRADE LEVEL COMPLETED IN SCHOOL

19. PREVIOUS JOB TRAINING
A. ☐ YES B. ☐ NO *(If "YES", complete No. 20 and 20A)*

20. JOB TITLE

20A. DATE COMPLETED
MONTH | YEAR

21. PRIMARY OCCUPATION TITLE *(Give specific job designation, such as freight handler, salad girl, etc.)*

22. OCCUPATION TITLE OF LAST FULL-TIME CIVILIAN JOB

23. PARTICIPATION IN OTHER PROGRAMS
☐ A. NONE
☐ B. PARTICIPATED IN *(Check all relevant items)*
☐ (1) WORK EXPERIENCE
☐ (2) ADULT VOCATIONAL
☐ (3) MILITARY OCCUPATIONAL
☐ (4) MANPOWER DEVELOPMENT
☐ (5) ON-THE-JOB TRAINING
☐ (6) ADULT BASIC

24. HAVE YOU EVER BEEN EMPLOYED FULL TIME *(at least 32 hours a week)* CONTINUOUSLY FOR A SIX-MONTH PERIOD?
A. ☐ YES B. ☐ NO

25. CURRENT WORK STATUS *(Check one)*
☐ (1) EMPLOYED FULL TIME *(at least 32 hours a week)*
☐ (2) EMPLOYED PART TIME *(less than 32 hours a week)*
☐ (3) UNEMPLOYED BUT SEEKING WORK
☐ (4) NOT IN LABOR FORCE

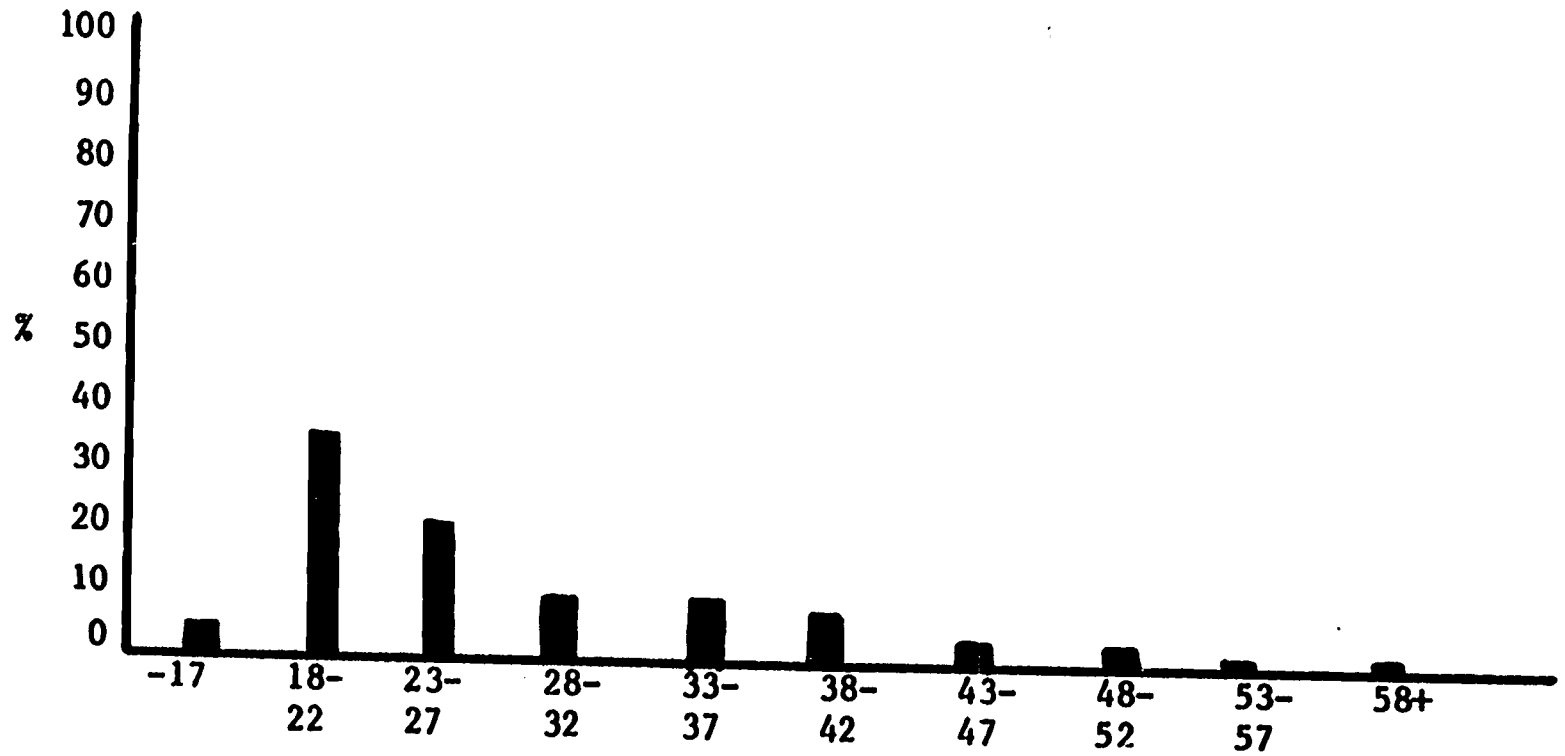
26. IF NOT EMPLOYED FULL TIME, GIVE PRIMARY REASON *(Check one)*
☐ (1) UNABLE TO FIND WORK
☐ (2) KEEPING HOUSE
☐ (3) IN SCHOOL
☐ (4) RETIRED
☐ (5) NOT SEEKING WORK
☐ (6) HEALTH PROBLEM
☐ (7) TRANSPORTATION PROBLEM
☐ (8) LACKS EDUCATION, TRAINING SKILL, EXPERIENCE, OR HAS OBSOLETE SKILL
☐ (9) CHILD CARE PROBLEM
☐ (10) CARE OF OTHER FAMILY MEMBER
☐ (11) CONVICTION RECORD
☐ (12) OTHER *(Specify)*

OE FORM 3121-3, 3/70

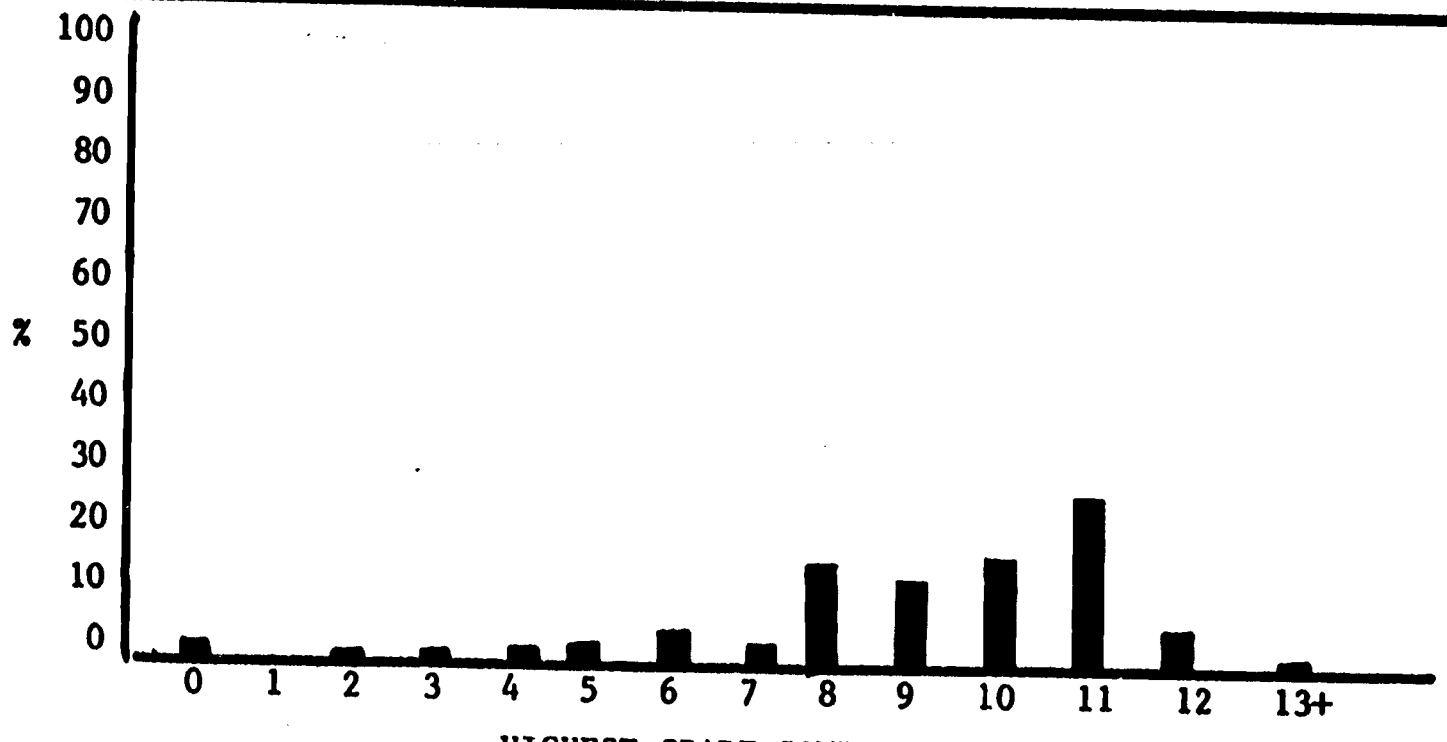
FIELD-TEST SITES: STUDENT BIOGRAPHICAL DATA

No. of Sites = 10

No. of Students = 411



AGE OF STUDENTS



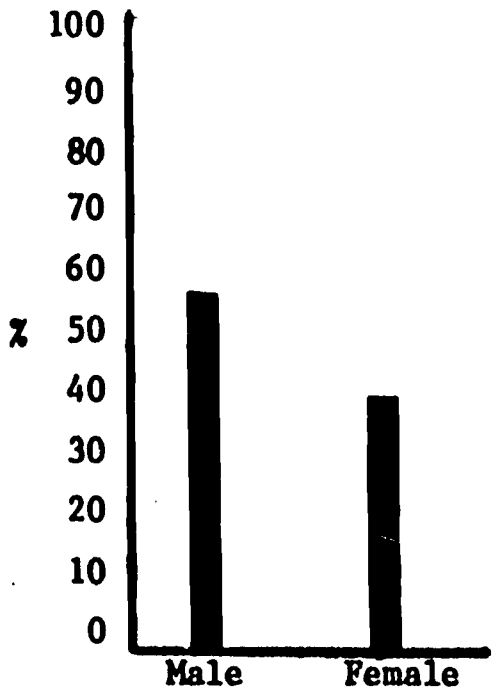
HIGHEST GRADE COMPLETED IN SCHOOL

Fig. 3b

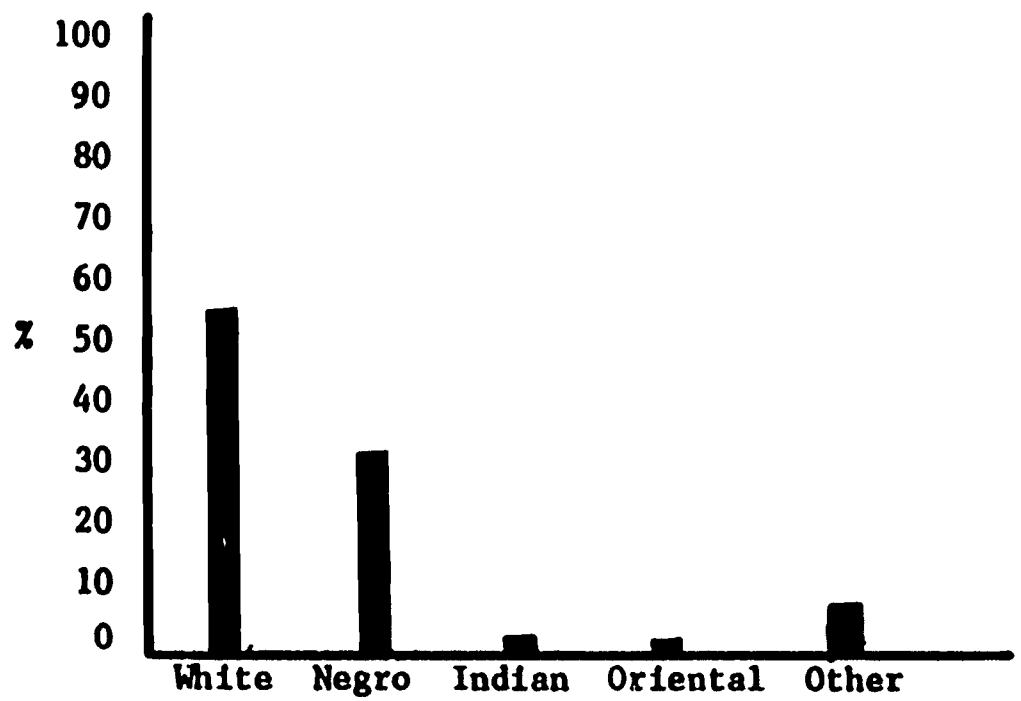
FIELD-TEST SITES: STUDENT BIOGRAPHICAL DATA

No. of Sites = 10

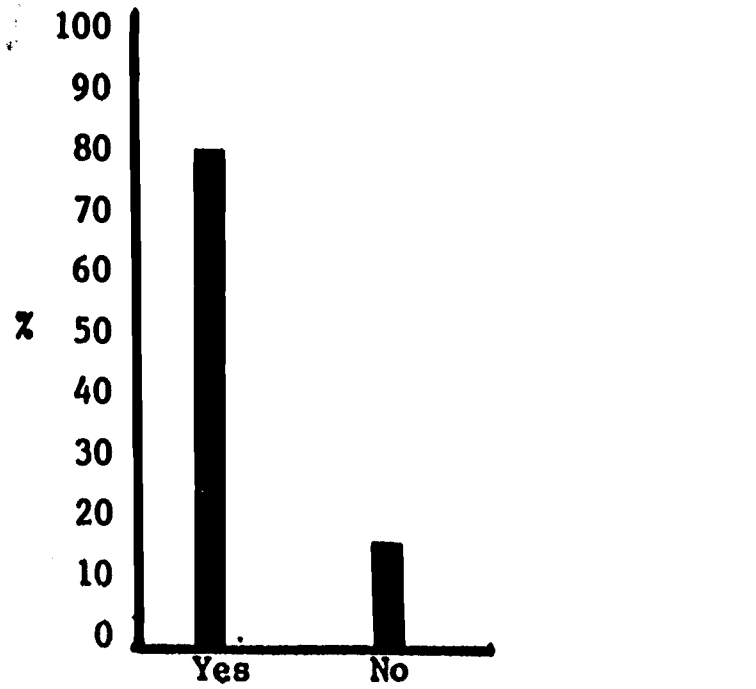
No. of Students = 411



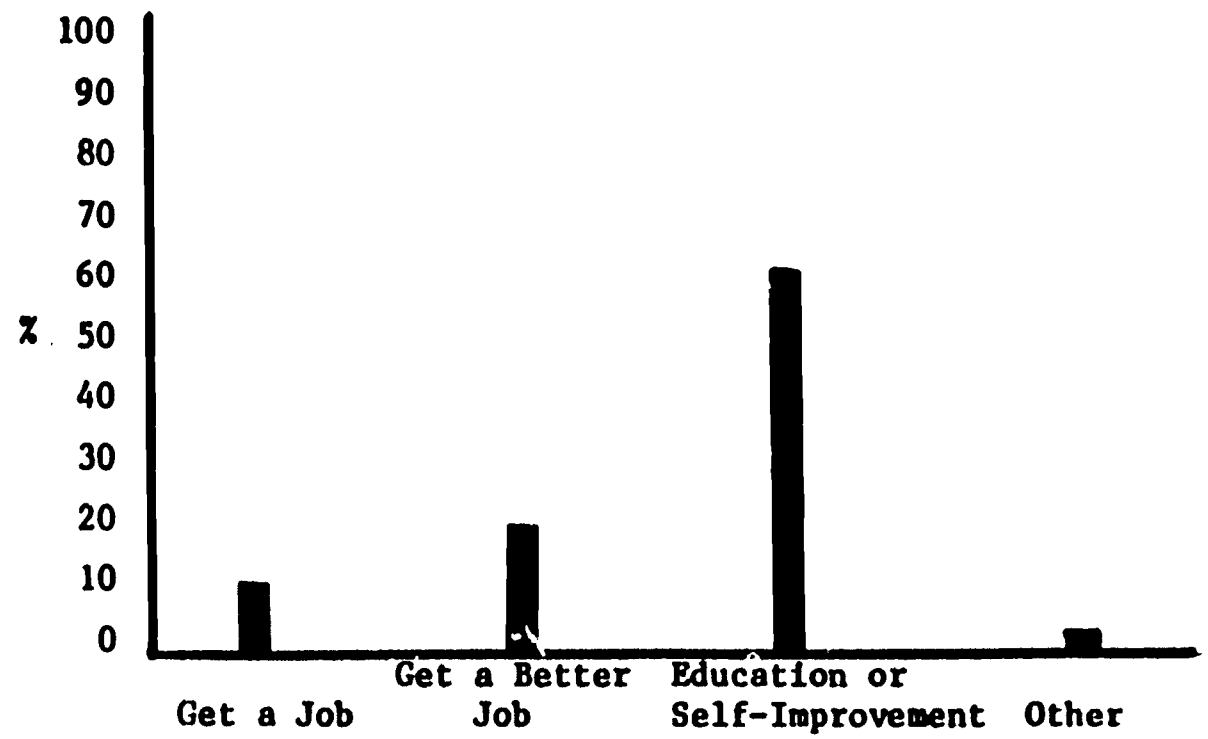
SEX



RACE



IS ENGLISH THE PRIMARY LANGUAGE SPOKEN IN THE HOME?



REASON FOR PARTICIPATION

Fig. 3a

Tables 5a, 5b and 5c show the distribution of student characteristics by site. These show the differences between sites on the selected variables:

	Variable	Range
1)	Sex	26% - 100% (Male)
2)	Is English the Primary Language?	25% - 100% (Yes)
3)	Race	0% - 100% (White)
4)	Reason for Participation	4% - 51% (Get a Better Job)
5)	Age of Students	11% - 53% (18-22)
6)	Highest Grade Completed	0% - 59% (Grade 11)

TABLE 5a

FIELD-TEST SITES: STUDENT BIOGRAPHICAL DATA

Number of Sites = 11 Number of Students = 483

SITE	SEX		IS ENGLISH THE PRIMARY LANGUAGE?		RACE					REASON FOR PARTICIPATION			
	Male %	Female %	Yes %	No %	White %	Negro %	Indian %	Oriental %	Other %	Get a Job %	Get a Better Job %	Educ. or Self-Improvement %	Other %
1	60	40	99	1	49	51	--	--	--	8	4	88	--
2	62	38	25	75	100	--	--	--	--	--	--	100	--
3	34	66	90	10	72	21	--	7	--	--	50	50	--
4	43	57	51	49	46	33	2	--	20	17	32	51	--
5	26	74	54	46	43	46	--	--	11	14	51	31	4
6	48	52	97	3	71	19	3	6	--	10	32	52	6
7	33	67	90	10	47	47	--	--	6	27	40	33	--
8	100	--	78	22	57	22	--	--	21	15	21	53	11
9	62	38	100	--	75	19	--	6	--	6	13	81	--
10	86	14	100	--	57	--	29	--	14	7	--	93	--
11*	100	--	100	--	--	99	--	--	1	21	47	29	3

* Non-ABE Site

TABLE 5b

FIELD-TEST SITES: STUDENT BIOGRAPHICAL DATA

Number of Sites = 11

Number of Students = 483

AGE OF STUDENTS

	Per Cent in Each Age Group									
SITE	Under 18	18-22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	Over 57
1	12	(53)	20	3	4	2	3	2	1	1
2	--	43	(14)	14	14	14	--	--	--	--
3	--	14	10	18	(10)	10	14	10	10	3
4	--	11	29	(20)	16	7	9	7	--	2
5	--	37	(29)	11	9	3	6	3	3	--
6	--	19	16	10	(16)	29	3	3	3	--
7	4	25	7	(21)	21	11	4	4	--	4
8	4	45	(28)	10	7	6	--	--	--	--
9	13	25	6	(13)	13	19	6	--	--	6
10	--	36	(29)	--	14	14	7	--	--	--
11*	--	(50)	42	6	--	3	--	--	--	--

* Non-ABE Site

( ): Median Age Group per Site

TABLE 5c

FIELD-TEST SITES: STUDENT BIOGRAPHICAL DATA

Number of Sites = 11

Number of Students = 483

HIGHEST GRADE COMPLETED IN SCHOOL

Per Cent at Each Grade													

SITE	0	1	2	3	4	5	6	7	8	9	10	11	12	13+
1	--	--	--	2	--	--	4	1	19	6	6	(59)	3	--
2	--	--	--	--	13	13	13	(13)	13	--	23	--	13	--
3	--	--	--	3	11	3	14	3	14	(17)	11	11	11	3
4	2	--	4	4	--	4	9	2	11	13	(2)	28	17	4
5	--	--	3	--	6	--	9	3	14	14	(29)	9	14	--
6	--	--	--	--	--	3	--	3	13	10	(39)	26	6	--
7	--	--	--	--	3	--	--	3	17	(27)	20	23	7	--
8	--	--	--	--	--	1	6	4	17	(24)	33	12	2	--
9	--	--	--	--	--	31	--	13	(25)	19	13	--	--	--
10	(93)	--	7	--	--	--	--	--	--	--	--	--	--	--
11*	--	--	--	--	--	--	--	--	--	7	17	17	(57)	2

* Non-ABE Site

( ): Median Highest Grade Completed in School per Site

2. Data Collected for Evaluation of the Implementation of the IPI System

a. Placement Profiles*

The effectiveness of the IPI system is dependent upon rather strict adherence to the "rules" for use of the diagnostic instruments. All of these, with the exception of the Placement Test scores, are recorded on the Prescription Sheets (see b. below). Adherence to the established Placement Testing procedures is extremely important in assuring that individuals begin work at appropriate points in the Continuum. Beginning work at too low a level can create boredom; beginning at too high a level creates unnecessary frustration.

In general, most sites did not continue Placement Testing until the student was appropriately placed. Students scoring above 79 on one Level were often automatically placed in the next higher Level; students scoring below 20 were often automatically placed in the next lower Level. In some cases, Placement was purposely low to establish "self-confidence". Students placed too low were still able to avoid unnecessary work in the skill booklets by mastering the Unit on the Unit Pre-tests. This practice, however, led to a needless "run" on available Pre-tests.

Lack of student orientation (some students received little or no orientation) resulted, in some sites, in the lack of student understanding

---

* Mathematics and Reading Placement Profiles are on pages 29 and 30.

MATHEMATICS PLACEMENT PROFILE

STUDENT NAME _____ STUDENT NUMBER _____

SCHOOL STAMP _____ GRADE _____ ROOM _____

MATHEMATICS AREA	DATE OF TEST		PLACEMENT LEVELS B–H							PLACED AT LEVEL
			B	C	D	E	F	G	H	
NUMERATION (01)		MAX. PTS.								
		SCORE								
		%								
PLACE VALUE (02)		MAX. PTS.								
		SCORE								
		%								
ADDITION (03)		MAX. PTS.								
		SCORE								
		%								
SUBTRACTION (04)		MAX. PTS.								
		SCORE								
		%								
ADDITION/ SUBTRACTION (34)		MAX. PTS.								
		SCORE								
		%								
MULTIPLICATION (05)		MAX. PTS.								
		SCORE								
		%								
DIVISION (06)		MAX. PTS.								
		SCORE								
		%								
MULTIPLICATION/ DIVISION (56)		MAX. PTS.								
		SCORE								
		%								
COMBINATION OF PROCESSES (07)		MAX. PTS.								
		SCORE								
		%								
FRACTIONS (08)		MAX. PTS.								
		SCORE								
		%								
MONEY (09)		MAX. PTS.								
		SCORE								
		%								
TIME (10)		MAX. PTS.								
		SCORE								
		%								
SYSTEMS OF MEASUREMENT (11)		MAX. PTS.								
		SCORE								
		%								
GEOMETRY (12)		MAX. PTS.								
		SCORE								
		%								

Based upon prototype originated by the Learning Research and Development Center. As Field tested by Research for Better Schools, Inc.

P3 – 1968

APPLETON-CENTURY-CROFTS
DIVISION OF MEREDITH CORPORATION
440 Park Avenue South, New York, N.Y. 10016

IPI

READING PLACEMENT PROFILE

Name _____ School _____

READING AREA	DATE OF TEST		PLACEMENT LEVELS A-K											PLACED AT LEVEL
			A	B	C	D	E	F	G	H	I	J	K	
PHONETIC ANALYSIS 21		MAX. PTS.												
		SCORE												
		%												
STRUCTURAL ANALYSIS 22		MAX. PTS.												
		SCORE												
		%												
VOCABULARY DEVELOPMENT 23		MAX. PTS.												
		SCORE												
		%												
LITERAL COMPREHENSION 24		MAX. PTS.												
		SCORE												
		%												
INTERPRETIVE COMPREHENSION 25		MAX. PTS.												
		SCORE												
		%												
EVALUATIVE COMPREHENSION 26		MAX. PTS.												
		SCORE												
		%												
LIBRARY SKILLS 27		MAX. PTS.												
		SCORE												
		%												
ORGANIZATIONAL SKILLS 28		MAX. PTS.												
		SCORE												
		%												
REFERENCE SKILLS 29		MAX. PTS.												
		SCORE												
		%												

of the purpose of Placement Testing. There were also some complaints (from both students and teachers) regarding the length of the testing.

b. Prescription Sheets

The prescription sheet (page 32) is the plan for the student's work; it specifies the materials he should use and how he should use them. The results of all diagnostic testing (except the Placement Tests) are also recorded on the prescription sheet so that the teacher and student know, at all times, those skills on which the student needs (or does not need) to work.

The prescription sheet also serves as an indicator of how well the teacher is following the rules of the system. The most efficient way of determining this is on field-site consultant visits, at which time the teacher and the consultant can study the written prescriptions and determine specific areas of weakness and strength. As this procedure was followed whenever possible, no formal analysis of received prescription sheets was made during the past year.

A sample of 1800 prescription sheets were scanned. There were numerous differences between the sites in their usage of the form. Several sites (due to paperwork problems) recorded little more than the test scores. As students in these sites were progressing all the same, it would seem that the prescription sheet, as such, is not as essential for an adult population as it

IPI MATHEMATICS PRESCRIPTION SHEET

____
Student Name

____
Unit

UNIT DATES	
Unit Began	
Unit Ended	
Hours Worked	

SKILL TASKS								CURRICULUM TESTS				Hours Worked
								Part 1		Part 2		
Date Pres.	Pres. Init.	Skill No.	Page No.	Inst. Tech. Codes	Instructional Notes	Total Points	Number Correct	No. of Points	%	No. of Points	%	

CODE	INSTRUCTIONAL TECHNIQUES
01	Teacher Tutor
02	Peer Tutor
03	Small Group Instruction
04	Large Group Instruction
05	Seminar
06	Curriculum Texts
07	Independent Study
08	Film Strips
09	Records & Tapes
10	Research
11	Tutor of Others
	Manipulative Devices

PRE AND POST TEST SCORES									
Skill Number	Max. Points Per Skill	Pre Score	%	Post Score	%	Post Score	%	Post Score	%
	DATES								

IPI Form M1 LV 7-70

is in the elementary schools. The possibility of modifying the form and usage of the standard prescription sheet is now being considered.

3. Data Collected for Program Content Modification

a. Error and Problem Report Forms

Program participants, both teachers and students were encouraged to assist in the curriculum revision by noting any instance of error or inadequacy in the present program. As the materials were undergoing extensive revision, the most useful comments were those referring to existing content, as opposed to typographical and computational errors. Examples of received comments can be found in the appendix.

b. Verbal Comments by Participants

Verbal exchange with the teachers was most helpful in indicating particular problems that adults had with the materials. The most oft-heard of these were:

the desire for an increased level of sophistication in the Reading program

the trouble that adults had with mathematics symbols (= or ≠ ; < or >) although they understood the concepts that these represented

the difficulty caused by not knowing such terms as prefix, suffix, etc.

that there was a need for more math problems dealing with precentage as this topic was emphasized on the GED test

that there was a need for more applications problems dealing with auto mechanics, hair dressing and other vocational skills

4. Data Collected for Estimation of Student Gain in the Program

a. Mathematics and Reading Placement Profiles

The scores (Levels) obtained by students on the Placement Tests constitute a most valuable data base. The data can be used to:

1. provide assurance that the curriculum content is needed by the adult learner
2. indicate the variability in range between sites
3. indicate the variability between students within a site
4. indicate the variability within an individual student in the different Areas of the Continuum
5. represent the baseline achievement level from which point gain can be measured

Figures 4 through 15 represent the total (excluding the one non-ABE site) Placement Test distribution by Level for the twelve Areas in the Mathematics program. (There is no Placement Test for the Area of Special Topics.

Figures 16 through 24 represent the total (excluding the one non-ABE site) Placement Test distribution by Level for the nine Areas in the Reading program.

Figures 25-26 represent the median Level per Area for the total number of sites in the sample (again, excluding the one non-ABE site).

MATHEMATICS

NUMERATION

NO. OF SITES 9 NO. OF STUDENTS 334

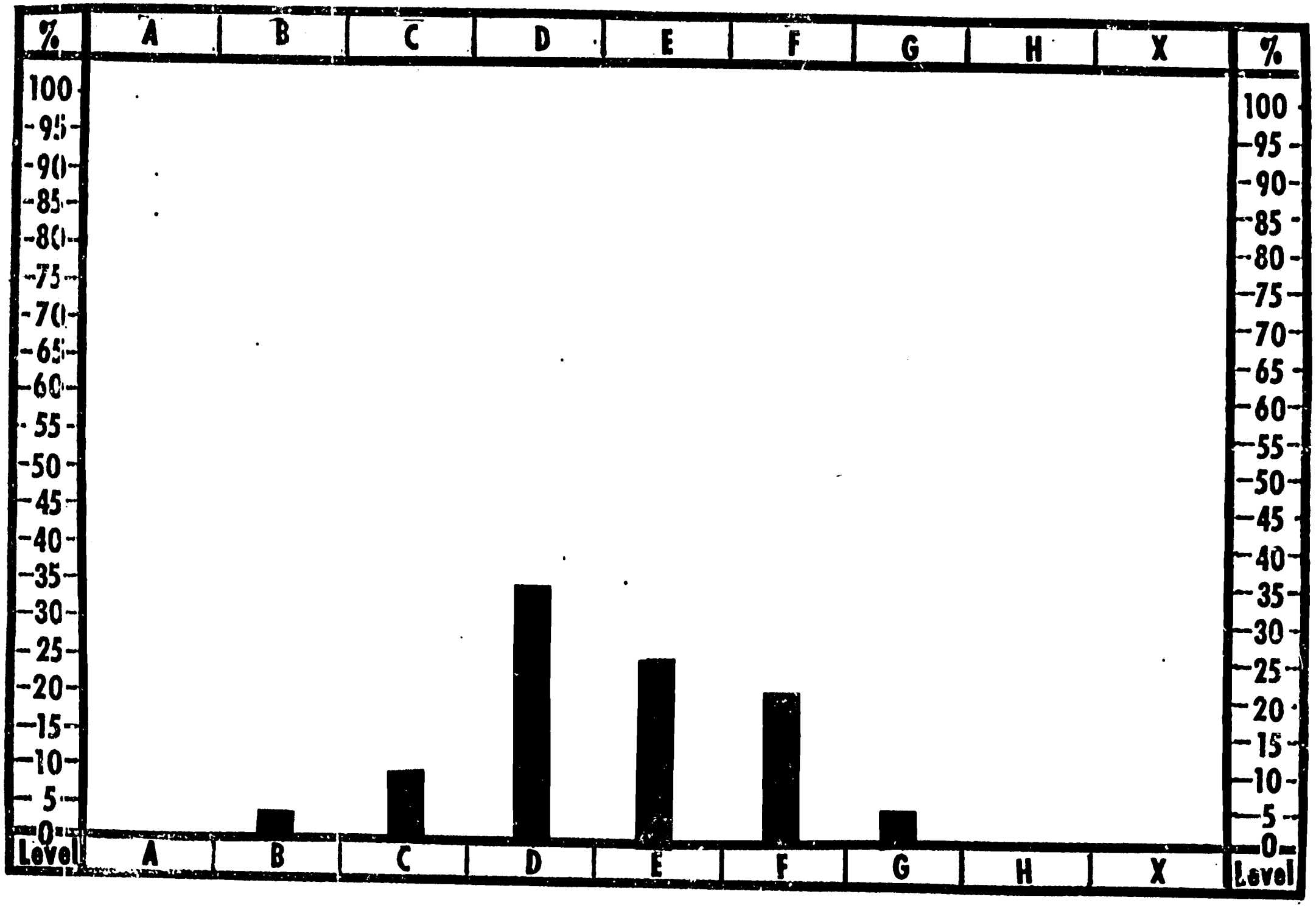


Fig. 4 **PLACEMENT PROFILES**

▨ Not taught at that Level

X : Tested out of Area

MATHEMATICS

PLACE VALUE

NO. OF SITES 9

NO. OF STUDENTS 334

%	A	B	C	D	E	F	G	H	X	%
100										
90										
80										
70										
60										
50										
40										
30										
20										
10										
0										

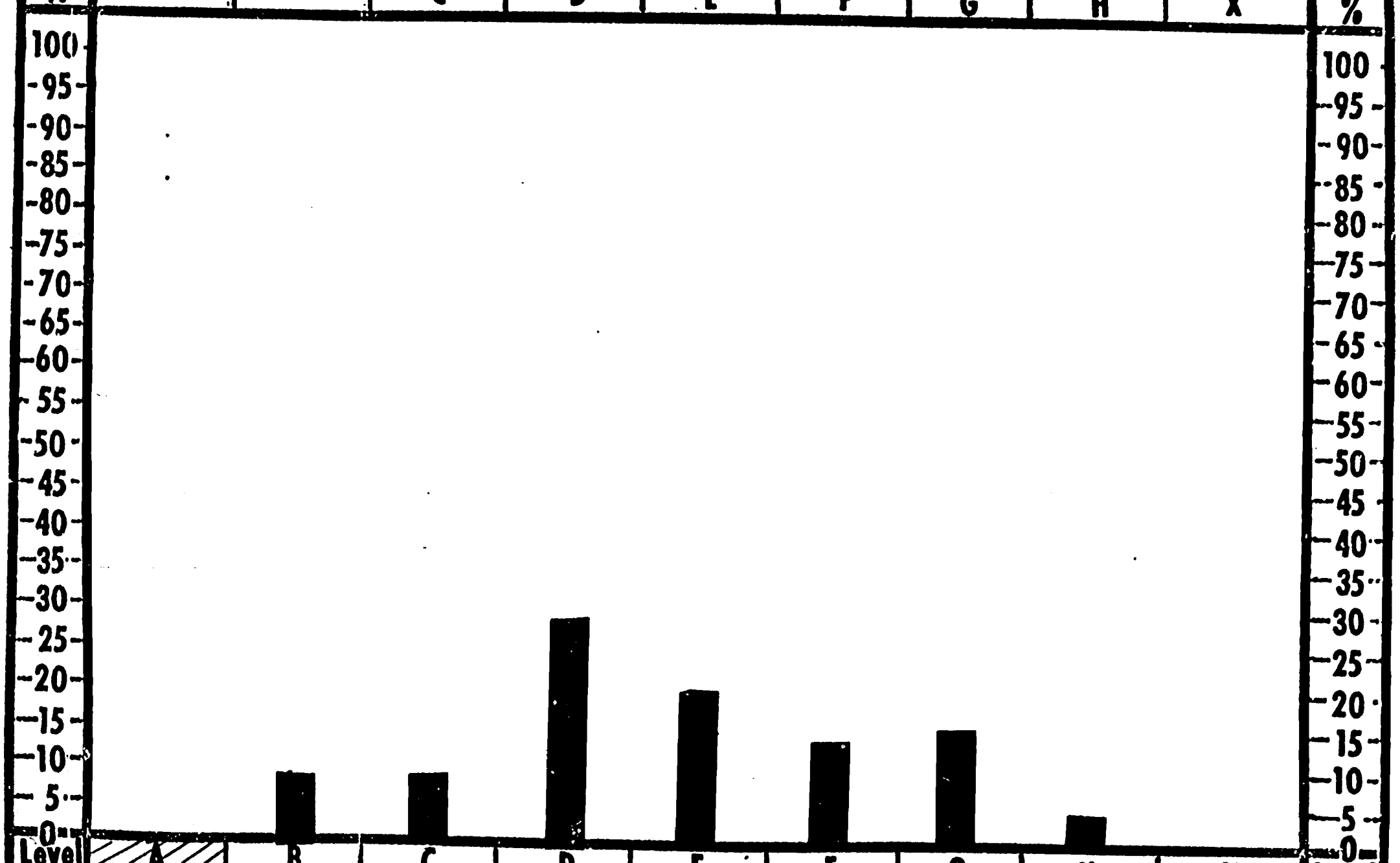

A
B
C
D
E
F
G
H
X
%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Level

Fig. 5 **PLACEMENT PROFILES**

Not taught at that Level

X : Tested out of Area

MATHEMATICS

ADDITION

NO. OF SITES 9 NO. OF STUDENTS 334

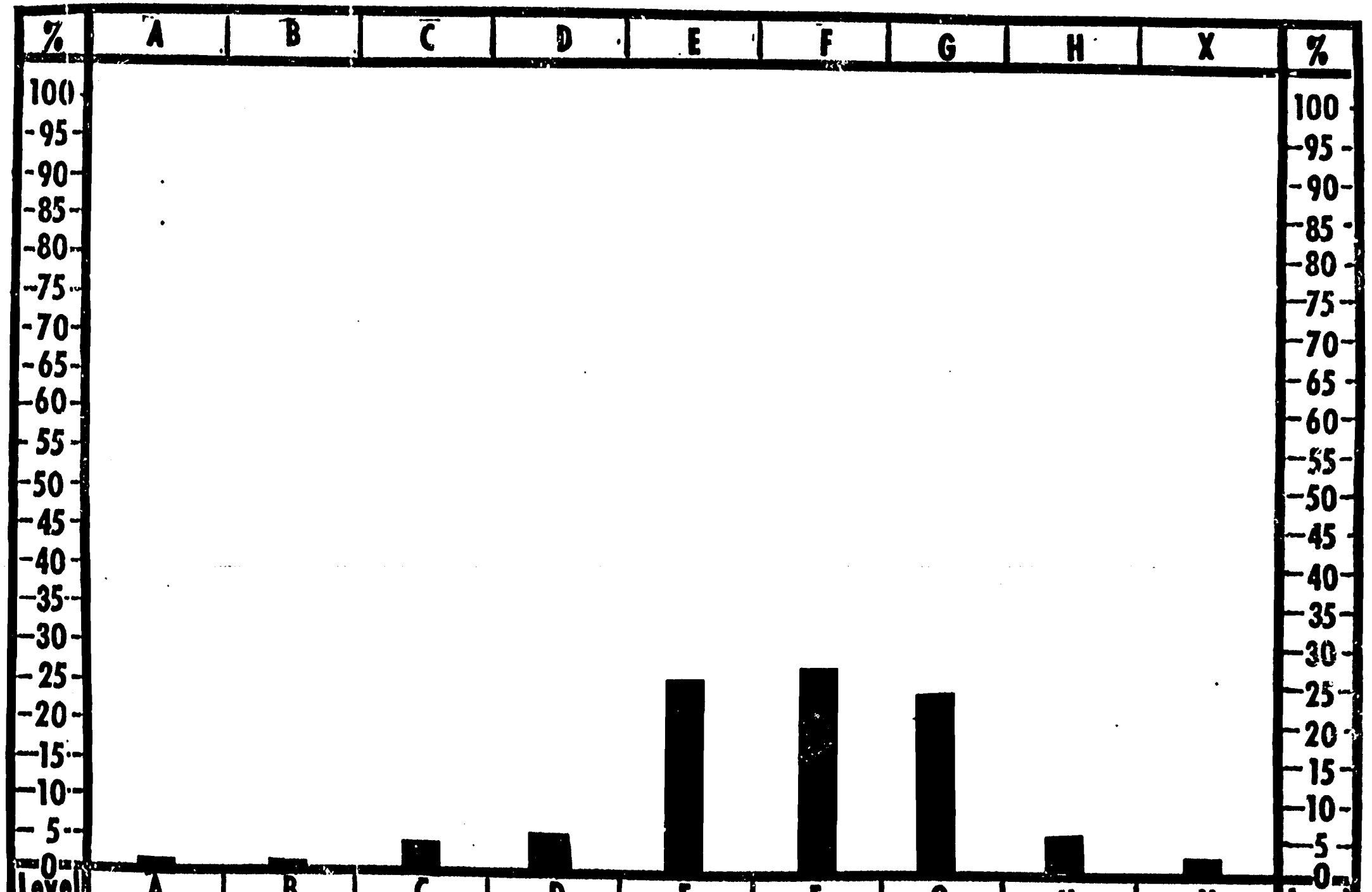


Fig. 6 **PLACEMENT PROFILES**

Not taught at that Level

X : Tested out of Area

MATHEMATICS

SUBTRACTION

NO. OF SITES 9

NO. OF STUDENTS 334

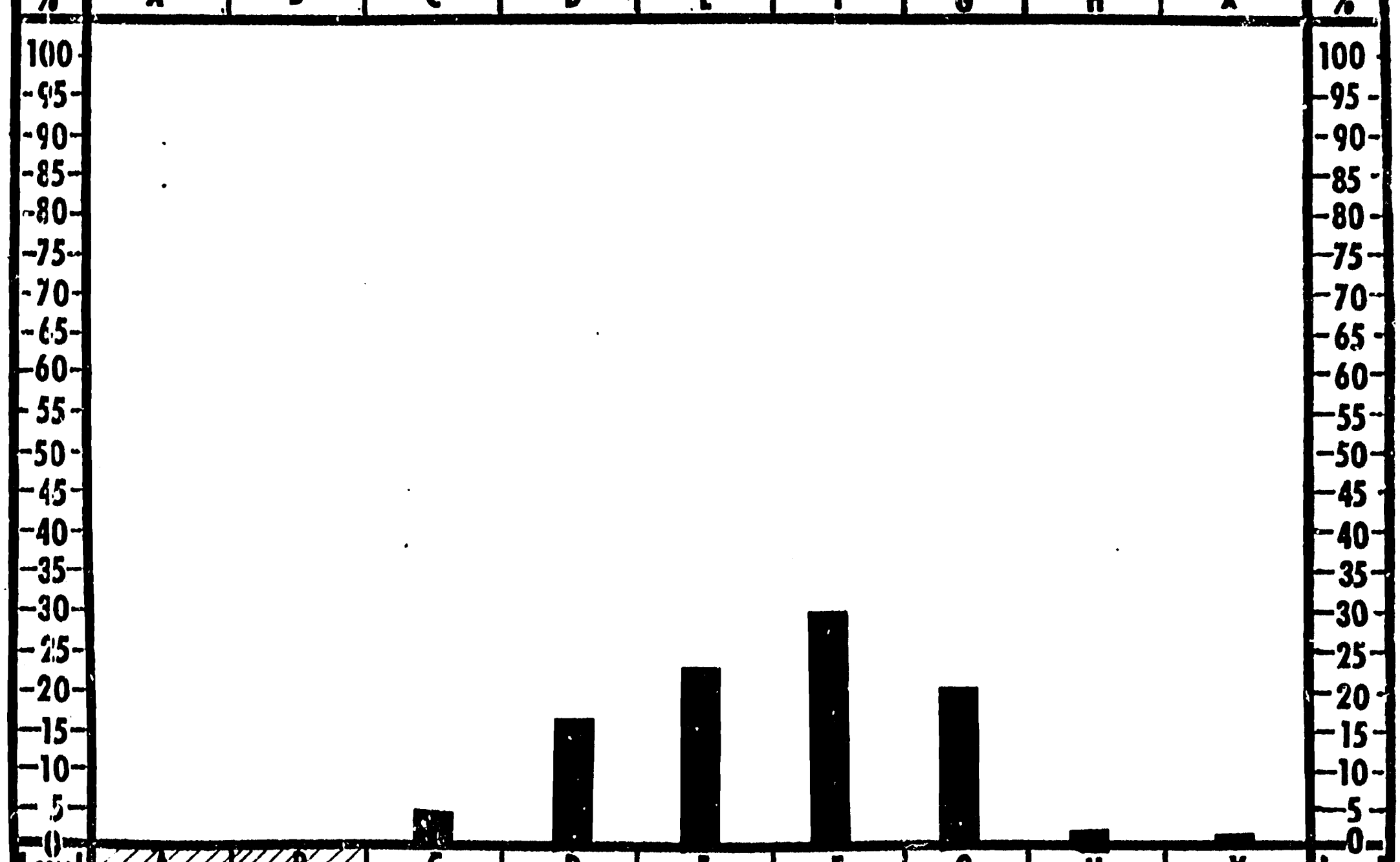

%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

Fig. 7 **PLACEMENT PROFILES**

Not taught at that Level

X: Tested out of Area

MATHEMATICS

MULTIPLICATION

NO. OF SITES 9

NO. OF STUDENTS 334

100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

Fig. 8 **PLACEMENT PROFILES** Not taught at that Level

X: Tested out of Area

MATHEMATICS

DIVISION

NO. OF SITES 9 NO. OF STUDENTS 334

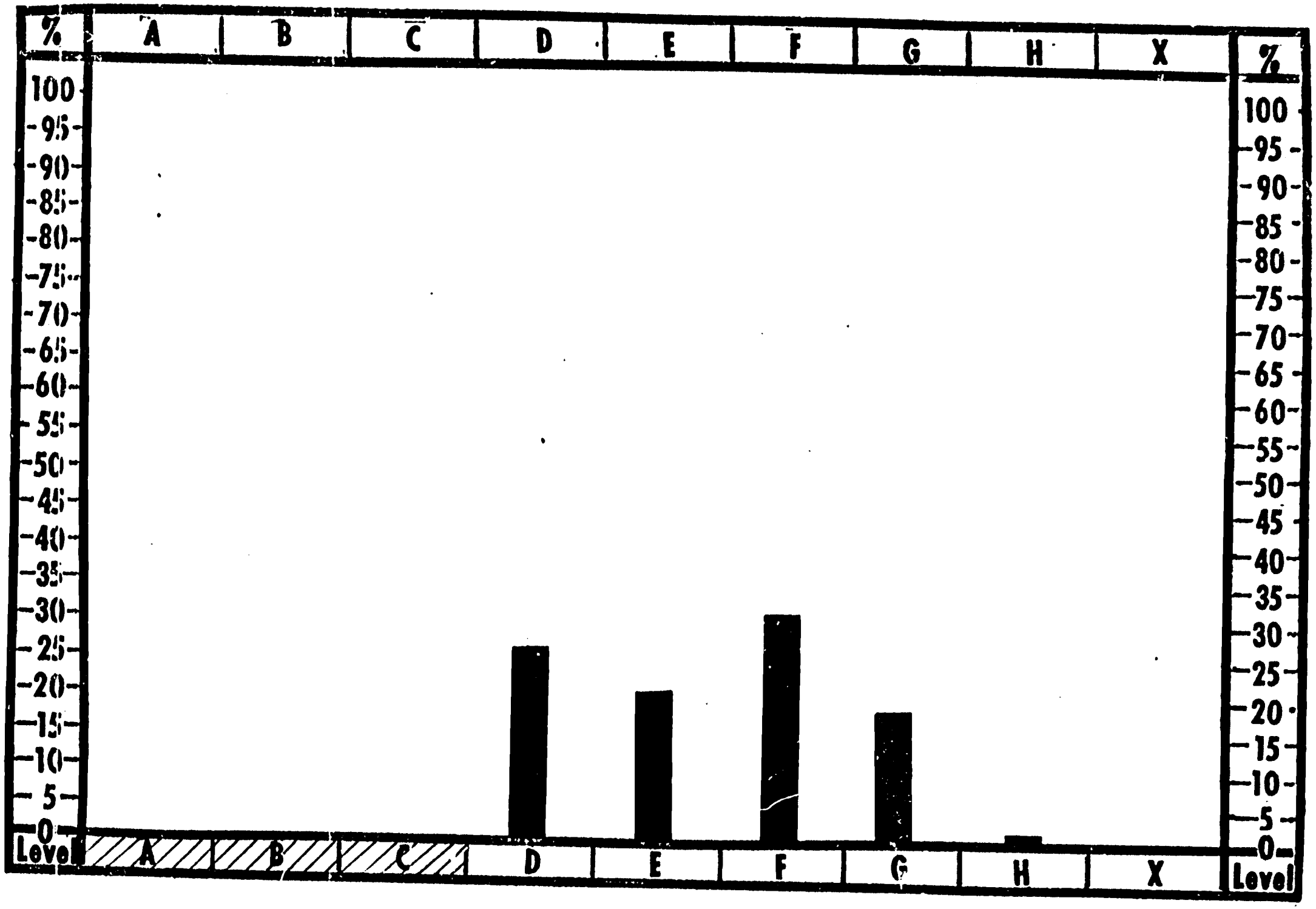


Fig. 9 PLACEMENT PROFILES

▨ Not taught at that Level

X : Tested out of Area

MATHEMATICS

COMBINATION OF PROCESSES

NO. OF SITES 9 NO. OF STUDENTS 334

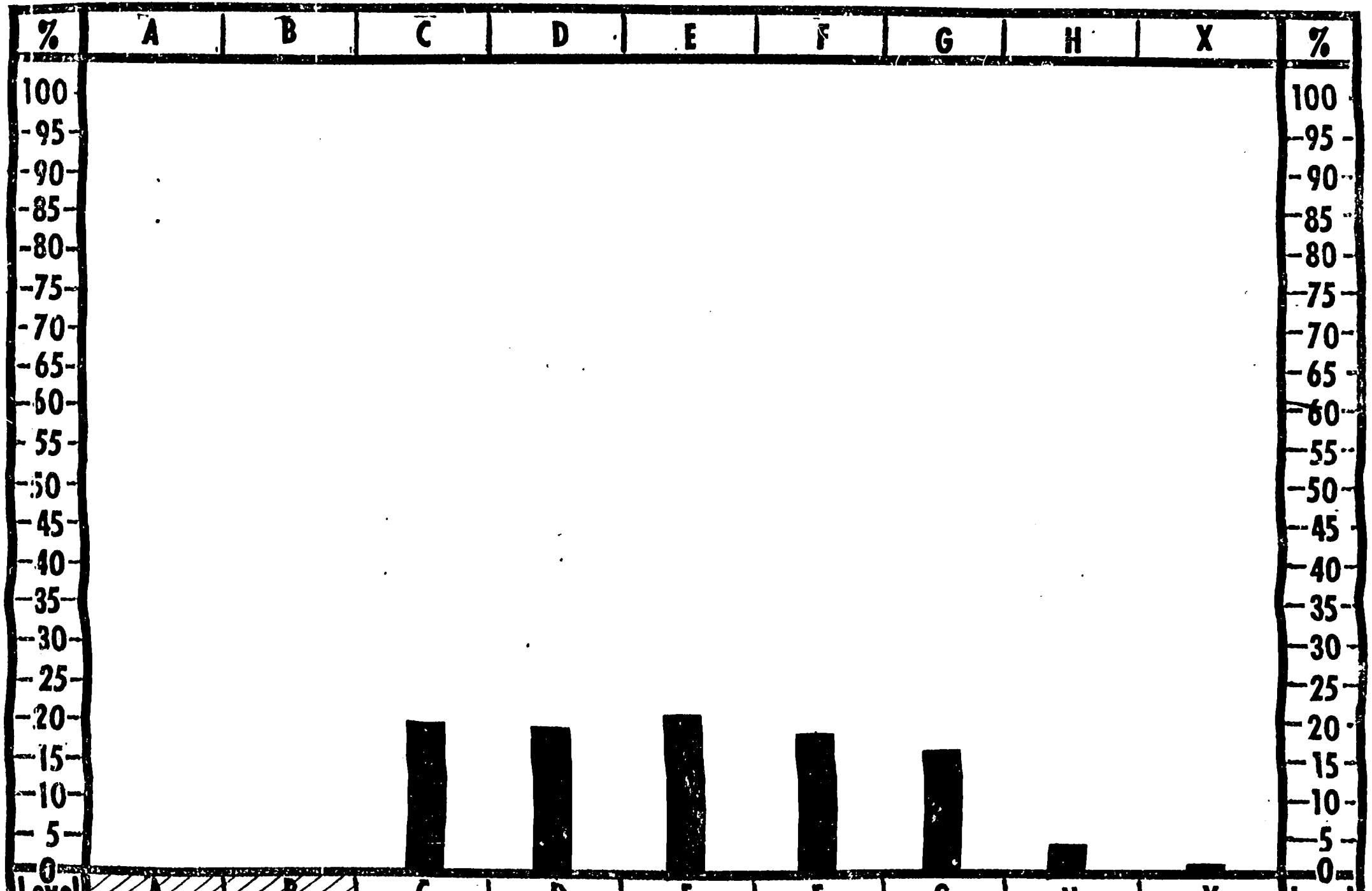

%
A
B
C
D
E
F
G
H
X
%
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

Fig. 10 **PLACEMENT PROFILES**

Not taught at that Level

X: Tested out of Area

MATHEMATICS

FRACTIONS

NO. OF SITES 9

NO. OF STUDENTS 334

%	A	B	C	D	E	F	G	H	X	%
100										100
90										90
80										80
70										70
60										60
50										50
40										40
30										30
20										20
10										10
0										0

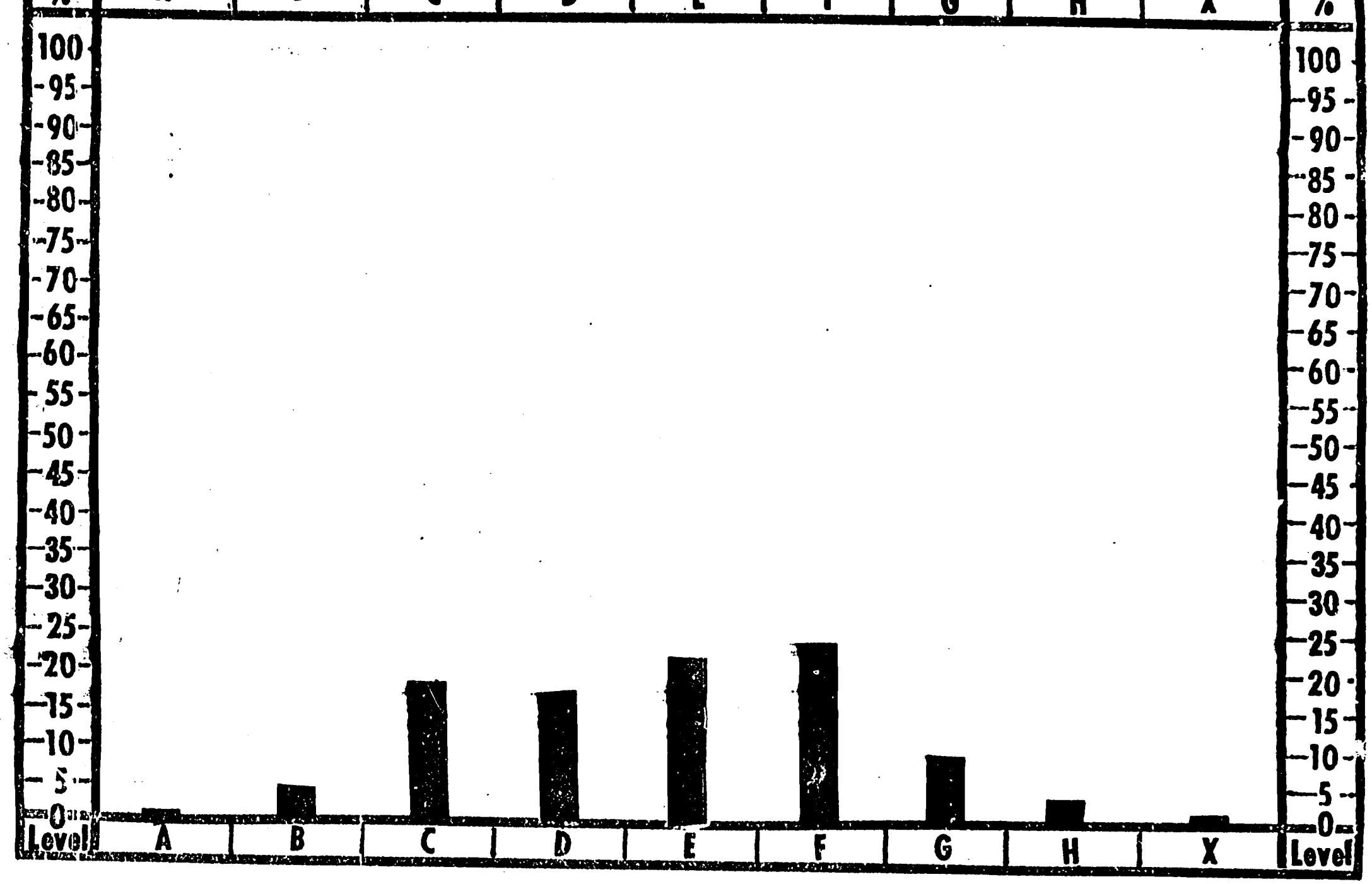


Fig. 11 **PLACEMENT PROFILES**

Not taught at that Level

X : Tested out of Area

MATHEMATICS

MONEY

NO. OF SITES 9

NO. OF STUDENTS 334

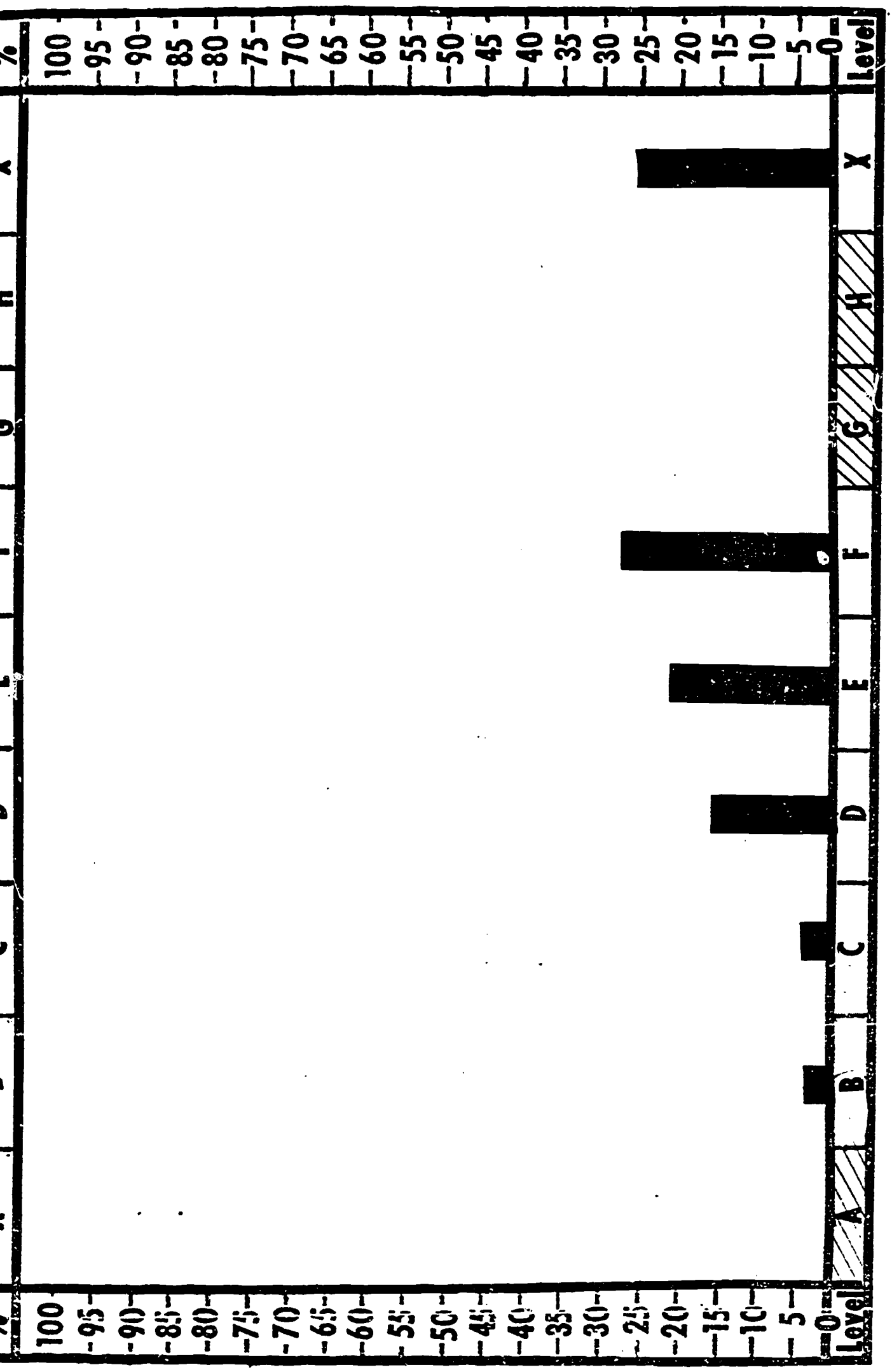


Fig. 12 PLACEMENT PROFILES

MATHEMATICS

TIME

NO. OF SITES 9

NO. OF STUDENTS 334

%	A	B	C	D	E	F	G	H	X	%
100										

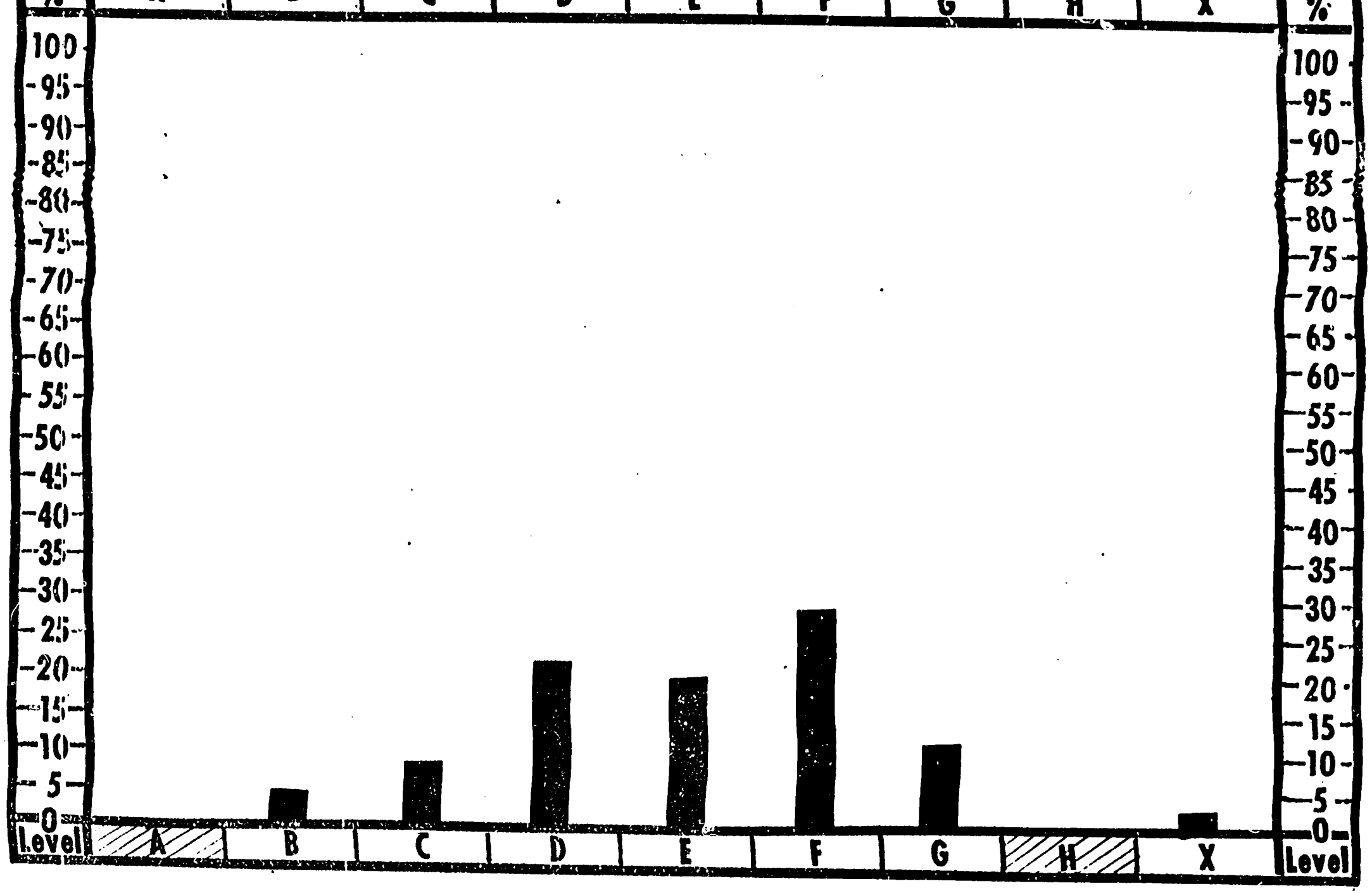


Fig. 13 **PLACEMENT PROFILES**

Not taught at that Level

X : Tested out of Area

MATHEMATICS

SYSTEMS OF MEASUREMENT

NO. OF SITES 9

NO. OF STUDENTS 334

%	A	B	C	D	E	F	G	H	X	%

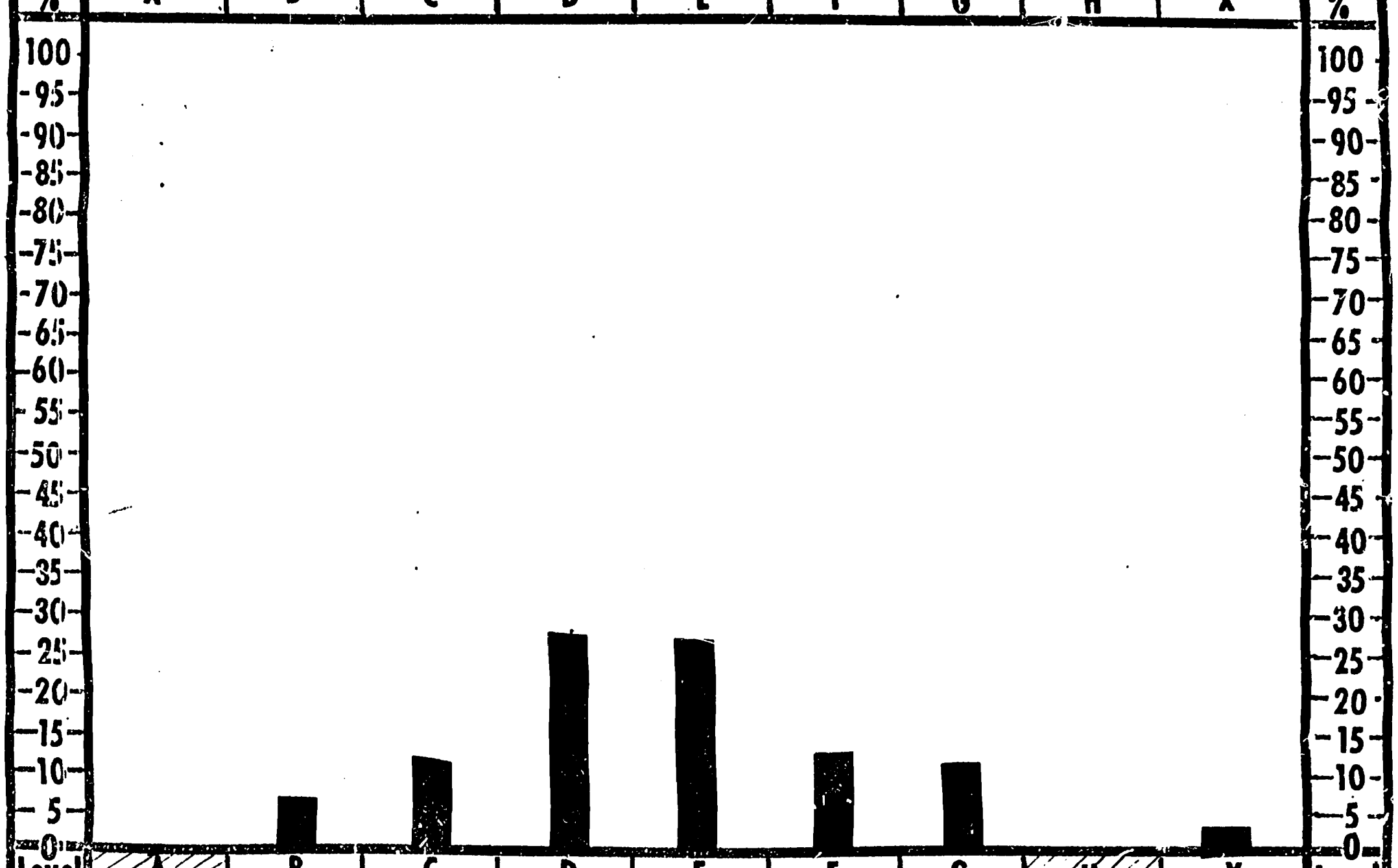

%
A
B
C
D
E
F
G
H
X
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Level

Fig. 14

PLACEMENT PROFILES

Not taught at that Level

X Tested out of Area

MATHEMATICS

GEOMETRY

NO. OF SITES 9

NO. OF STUDENTS 334

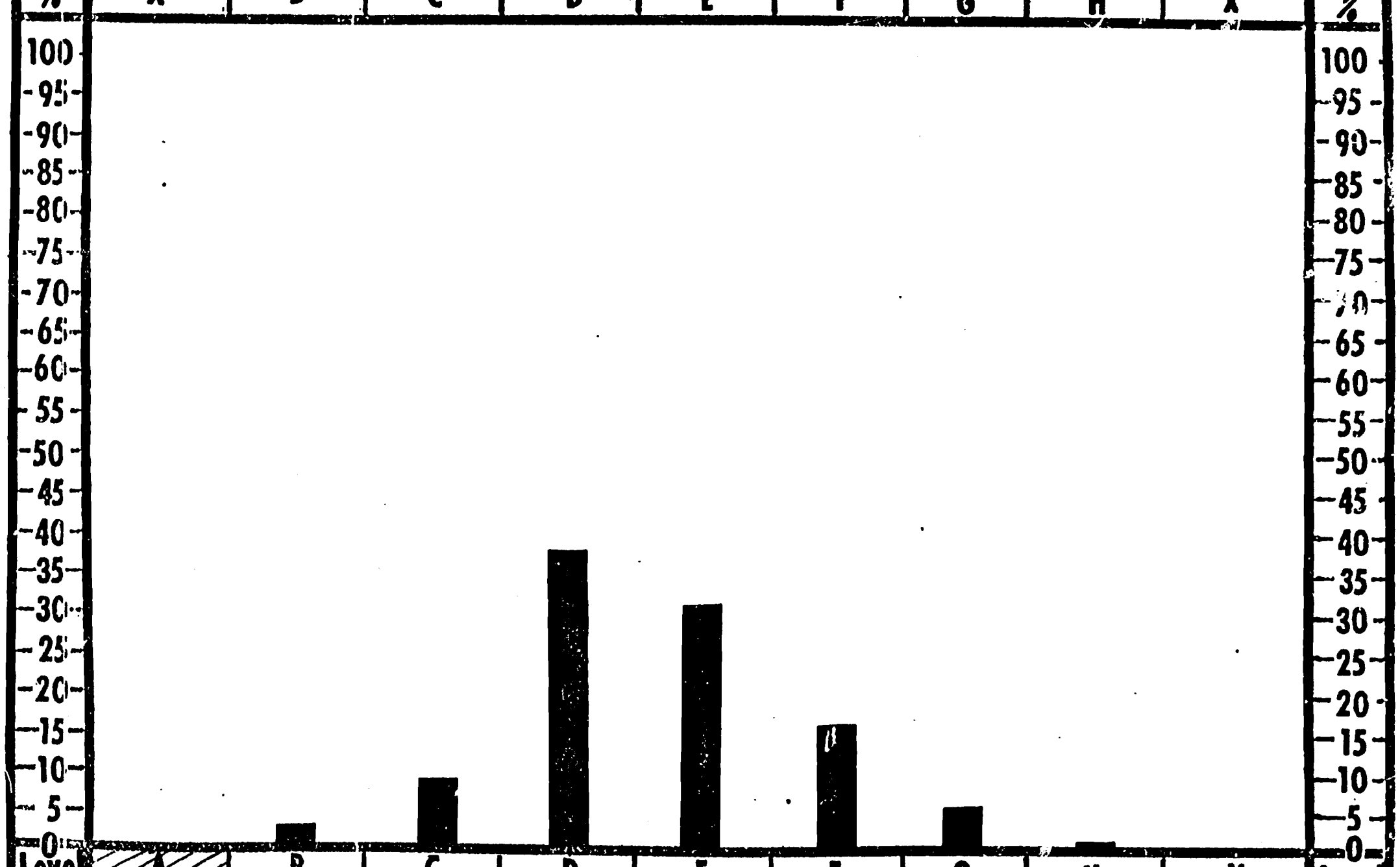

%
A
B
C
D
E
F
G
H
X
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

Fig. 15 **PLACEMENT PROFILES**

Not taught at that Level

X : Tested out of Area

READING

PHONETIC ANALYSIS

NO. OF SITES 5

NO. OF STUDENTS 282

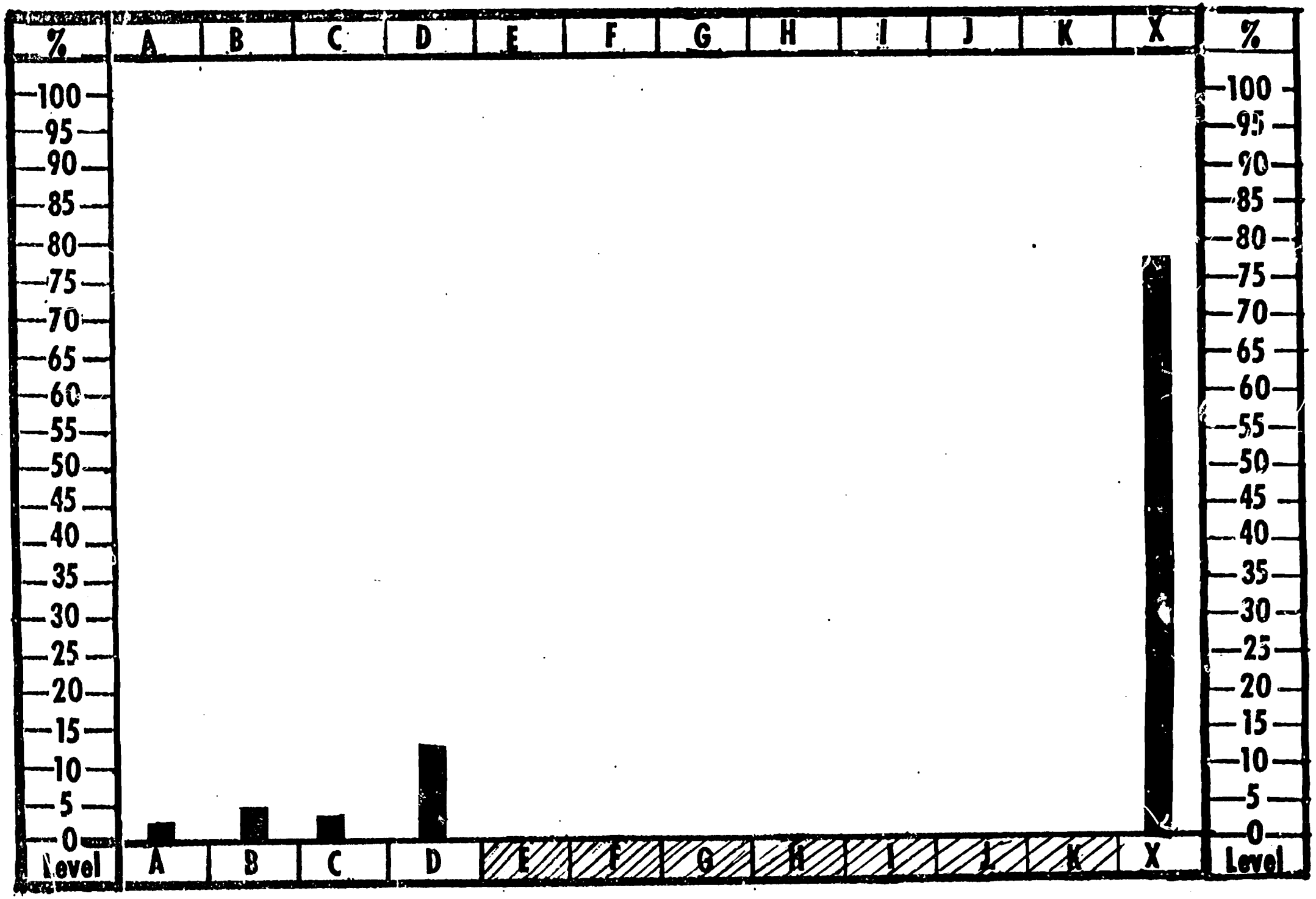


Fig. 16 **PLACEMENT PROFILES**

READING

STRUCTURAL ANALYSIS

NO. OF SITES 5

NO. OF STUDENTS 282

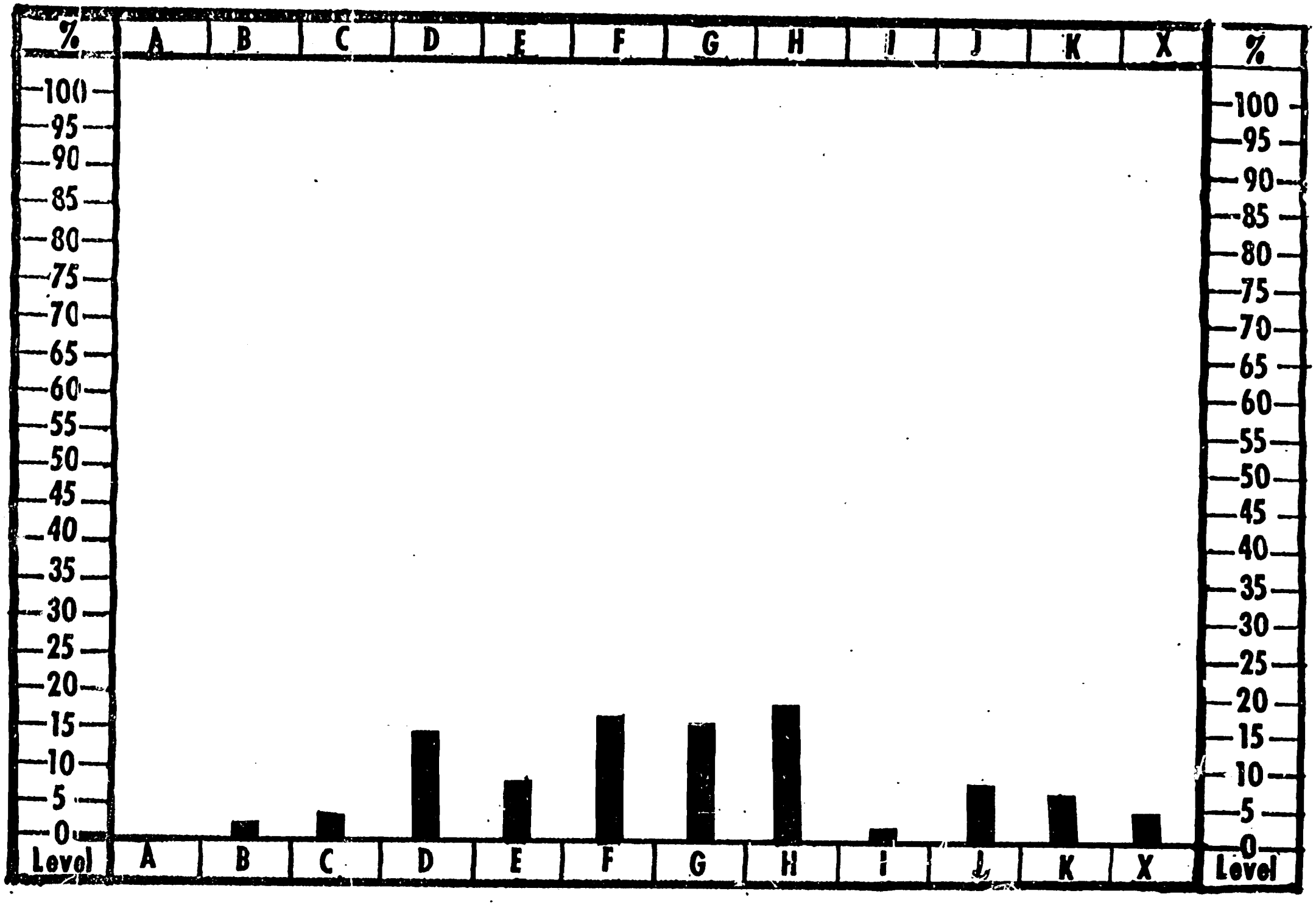


Fig. 17 PLACEMENT PROFILES

READING

VOCABULARY DEVELOPMENT

NO. OF SITES 5

NO. OF STUDENTS 282

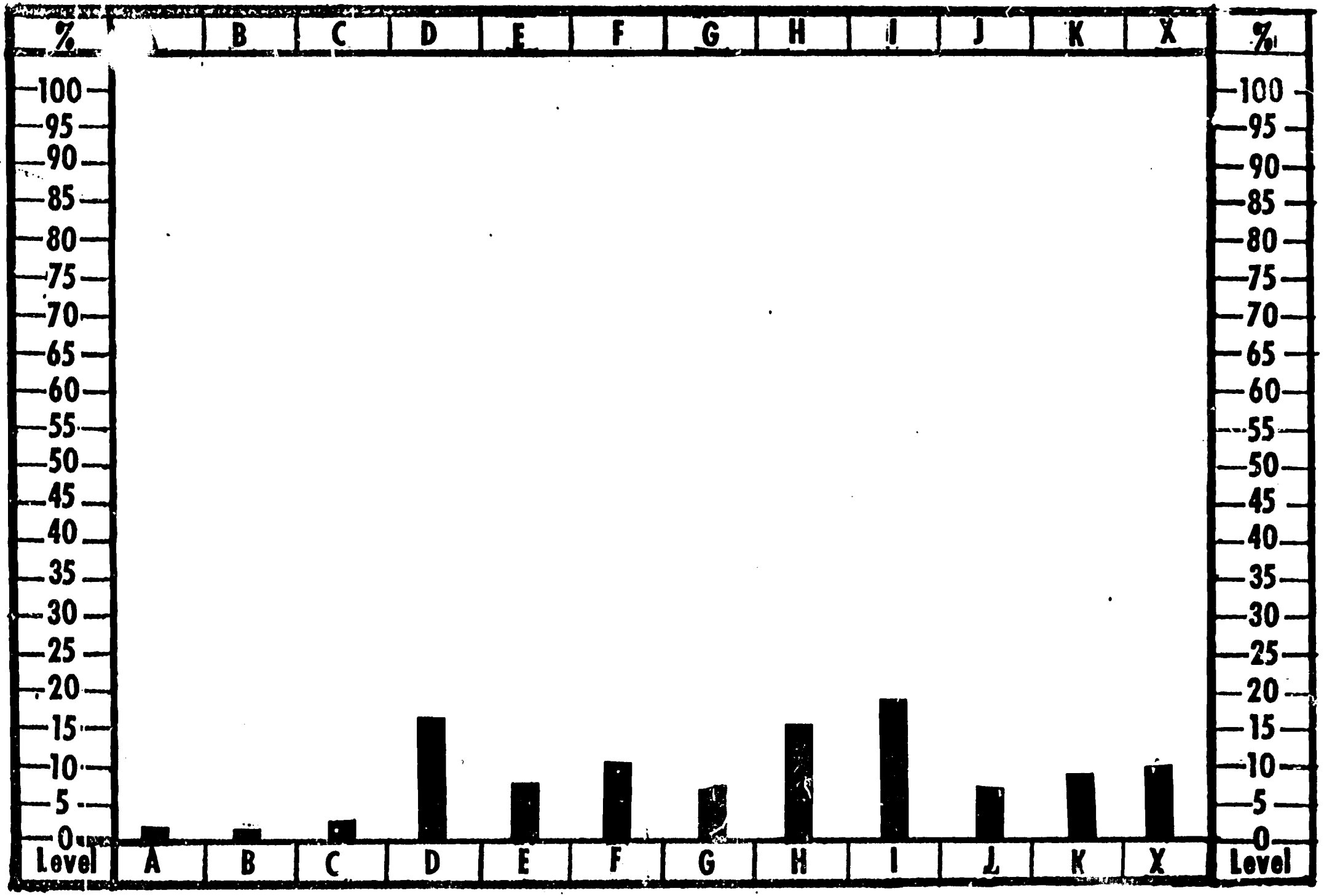


Fig. 18 **PLACEMENT PROFILES**

READING

LITERAL COMPREHENSION

NO. OF SITES 5

NO. OF STUDENTS 282

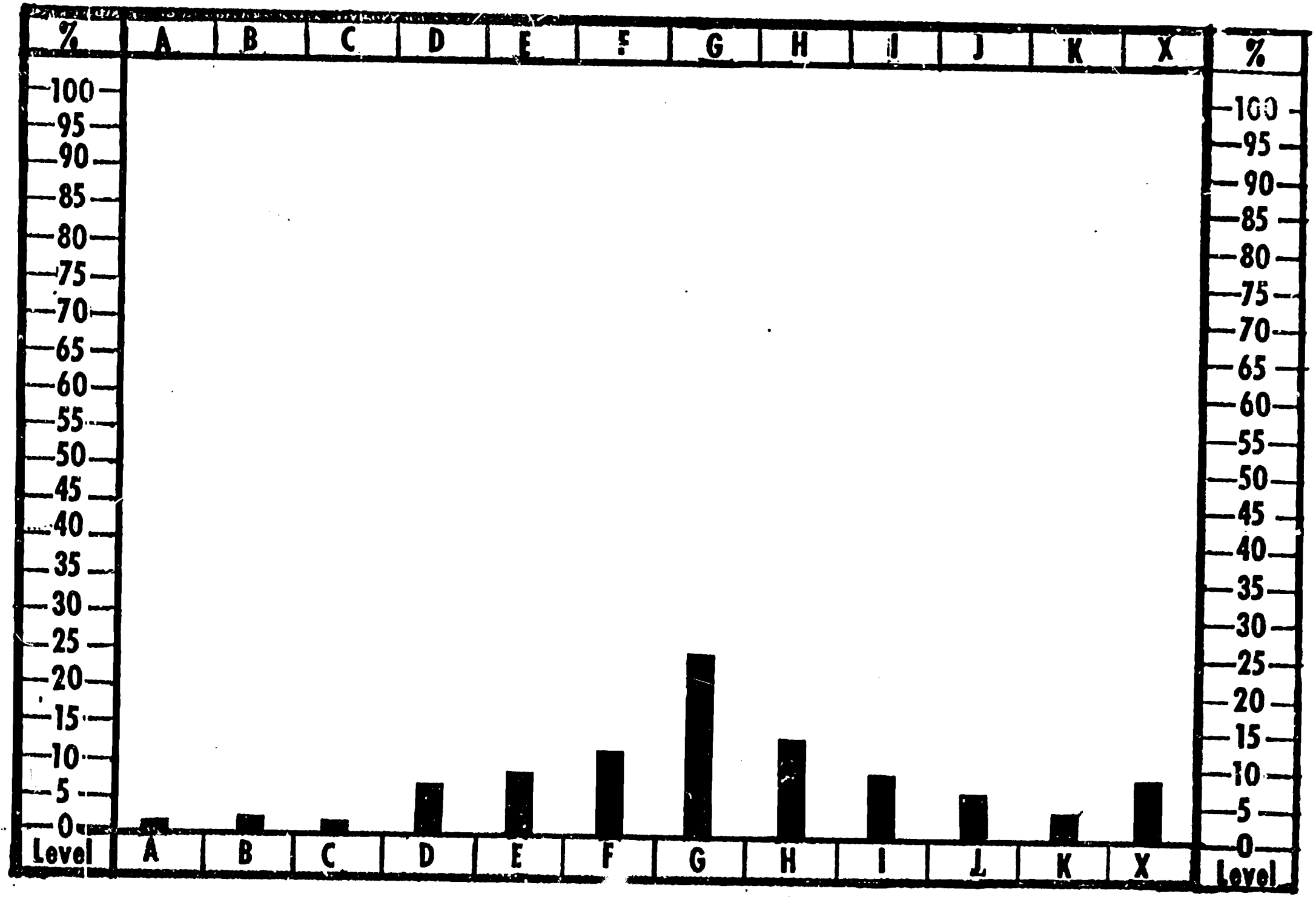


Fig. 19 PLACEMENT PROFILES

READING

INTERPRETIVE COMPREHENSION

NO. OF SITES 5

NO. OF STUDENTS 282

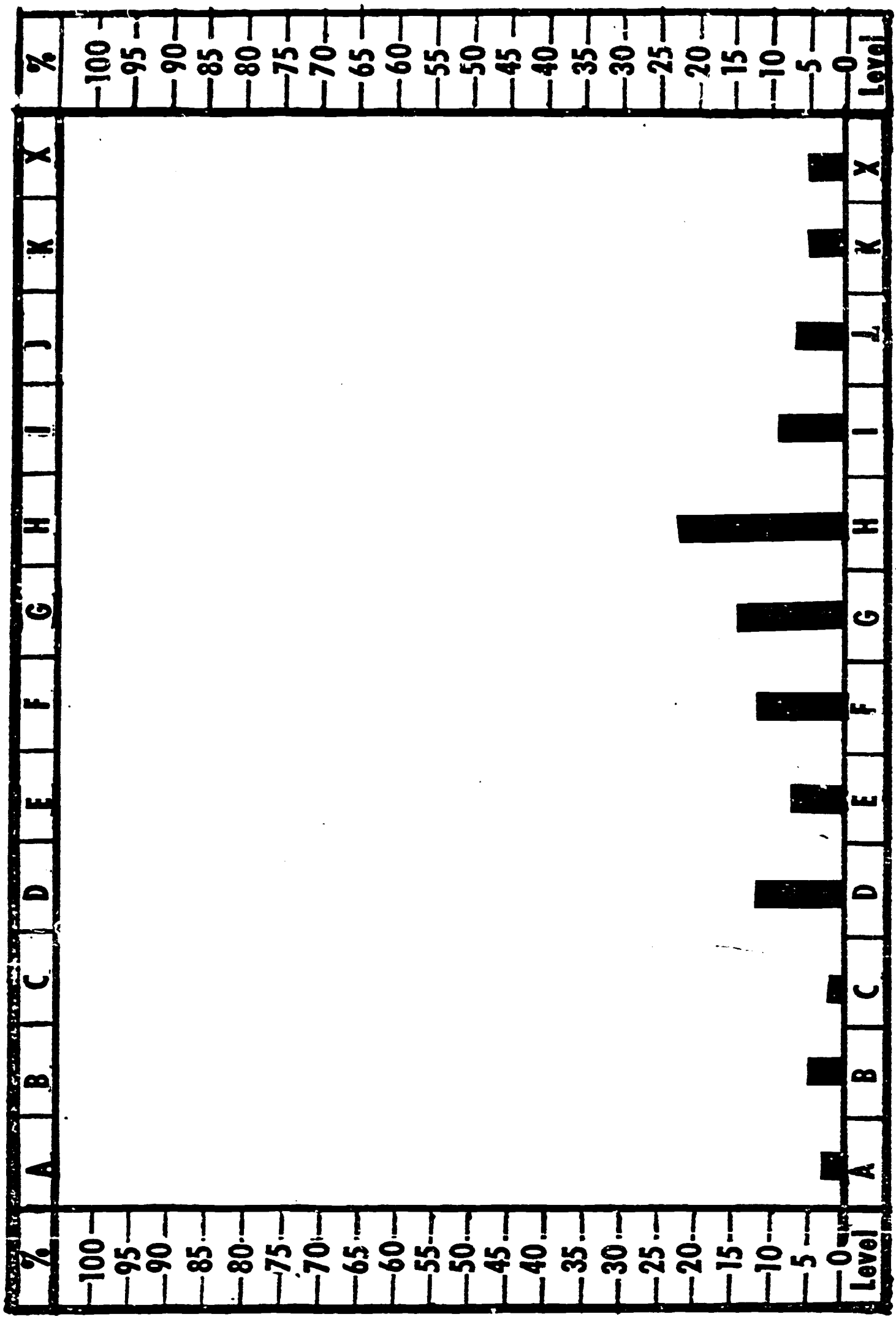


Fig. 20 PLACEMENT PROFILES

READING

EVALUATIVE COMPREHENSION

NO. OF SITES 5

NO. OF STUDENTS 282

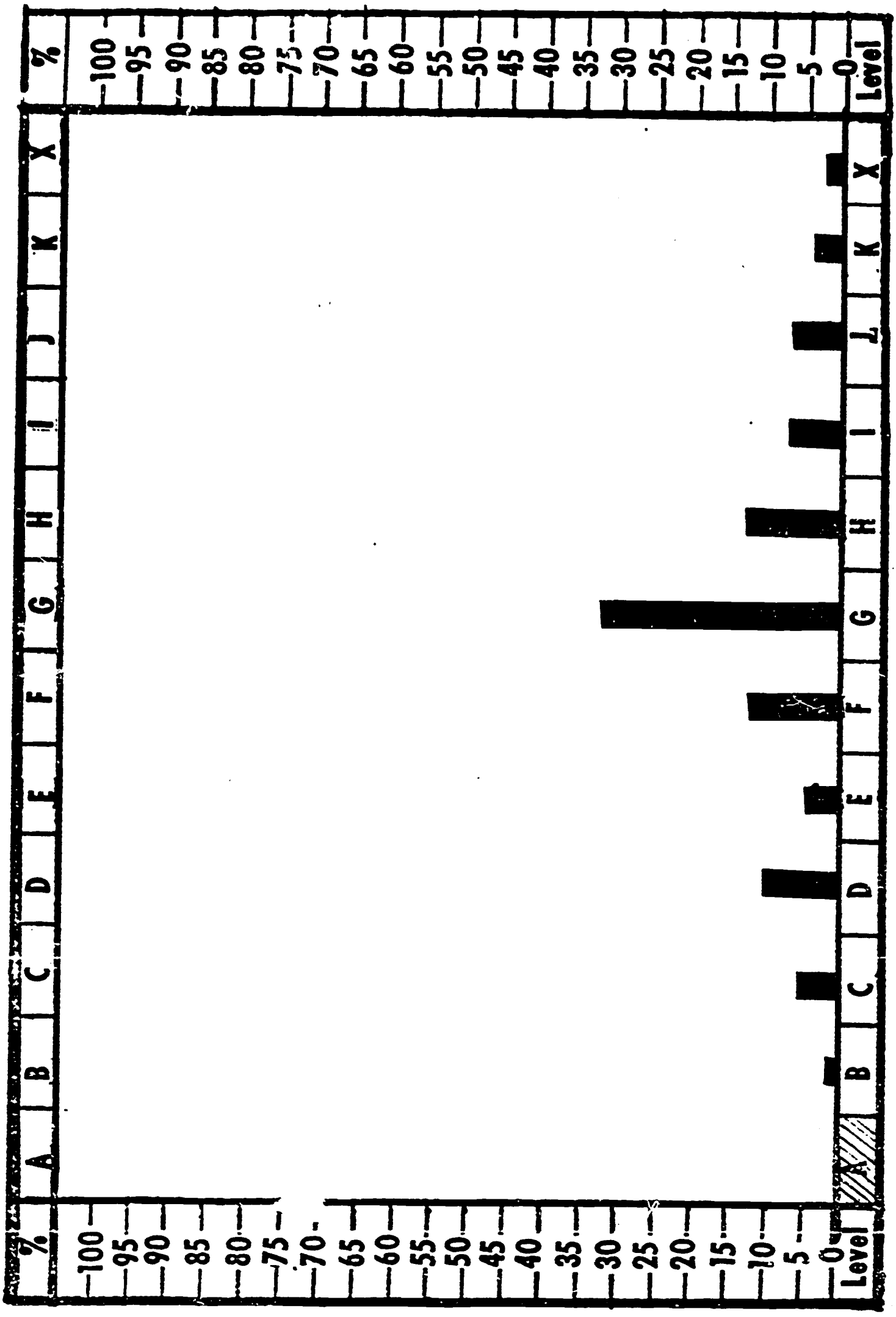


Fig. 21 PLACEMENT PROFILES

READING

LIBRARY SKILLS

NO. OF SITES 5

NO. OF STUDENTS 282

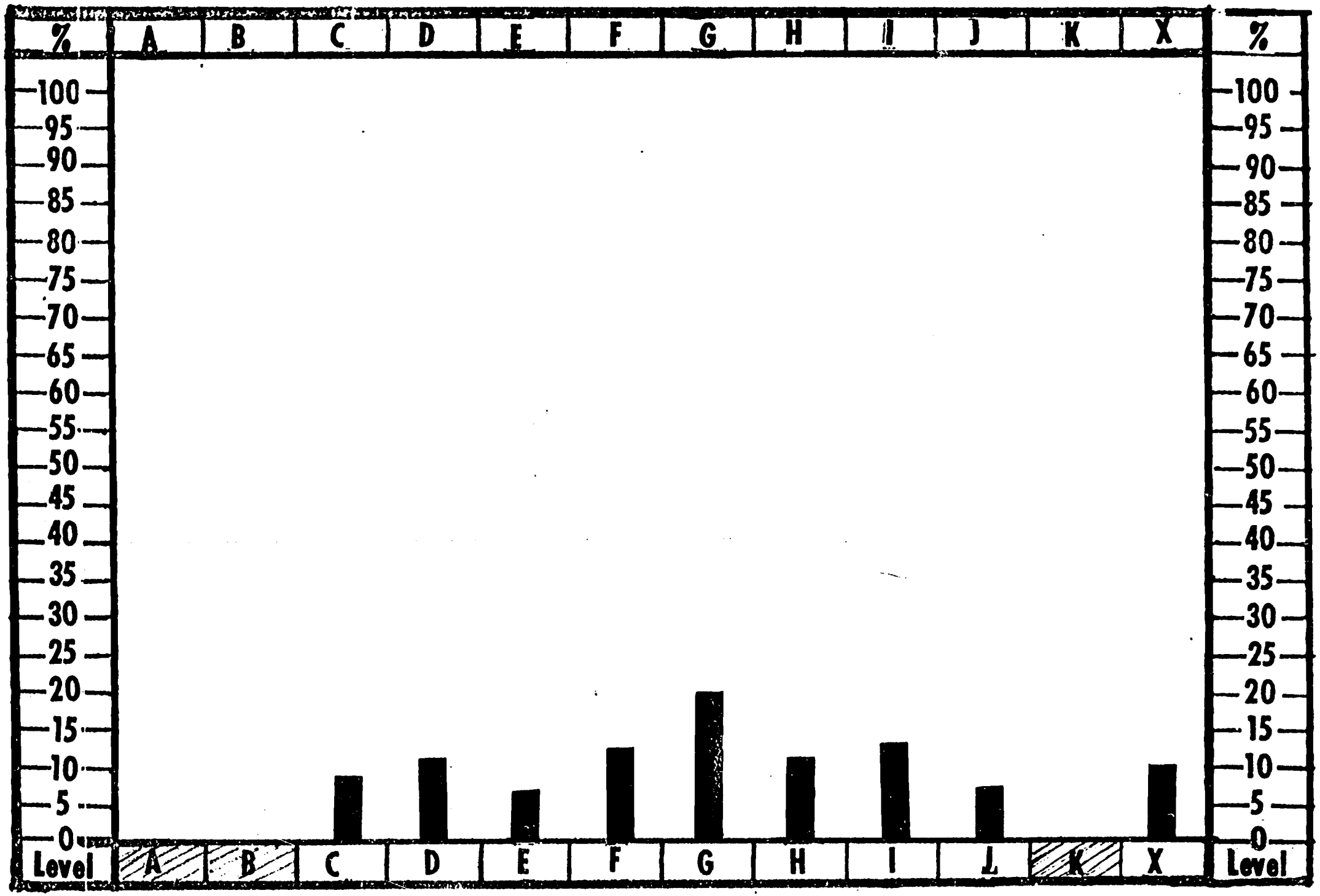


Fig. 22 **PLACEMENT PROFILES**

READING

ORGANIZATIONAL SKILLS

NO. OF SITES 5

NO. OF STUDENTS 282

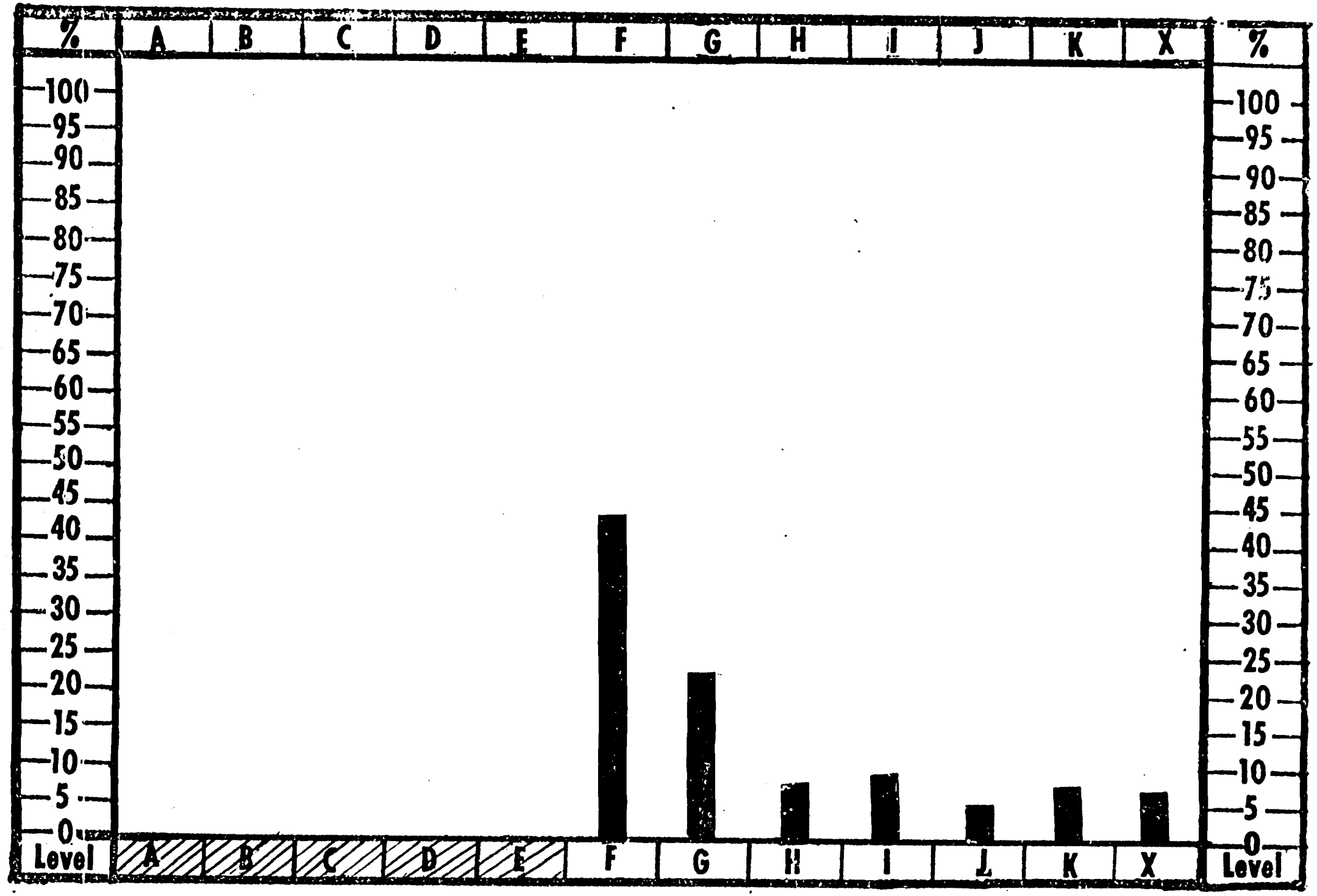


Fig. 23 **PLACEMENT PROFILES**

READING

REFERENCE SKILLS

NO. OF SITES 5

NO. OF STUDENTS 282

PLACEMENT PROFILES MATHEMATICS

NO. OF SITES 9

NO. OF STUDENTS 334

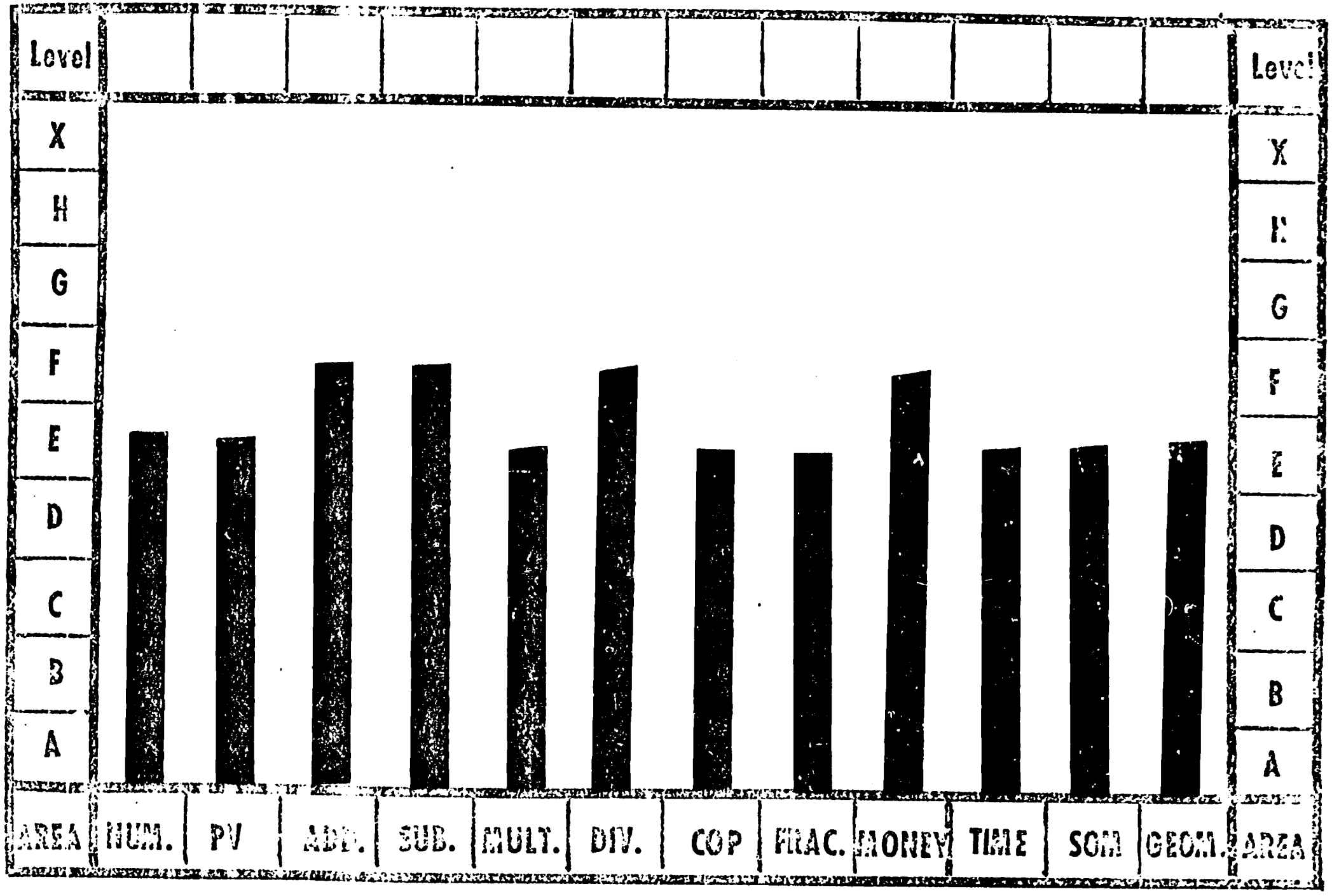


Fig. 25 MEDIAN LEVEL PER AREA

PLACEMENT PROFILES : READING

NO. OF SITES 5

NO. OF STUDENTS 282

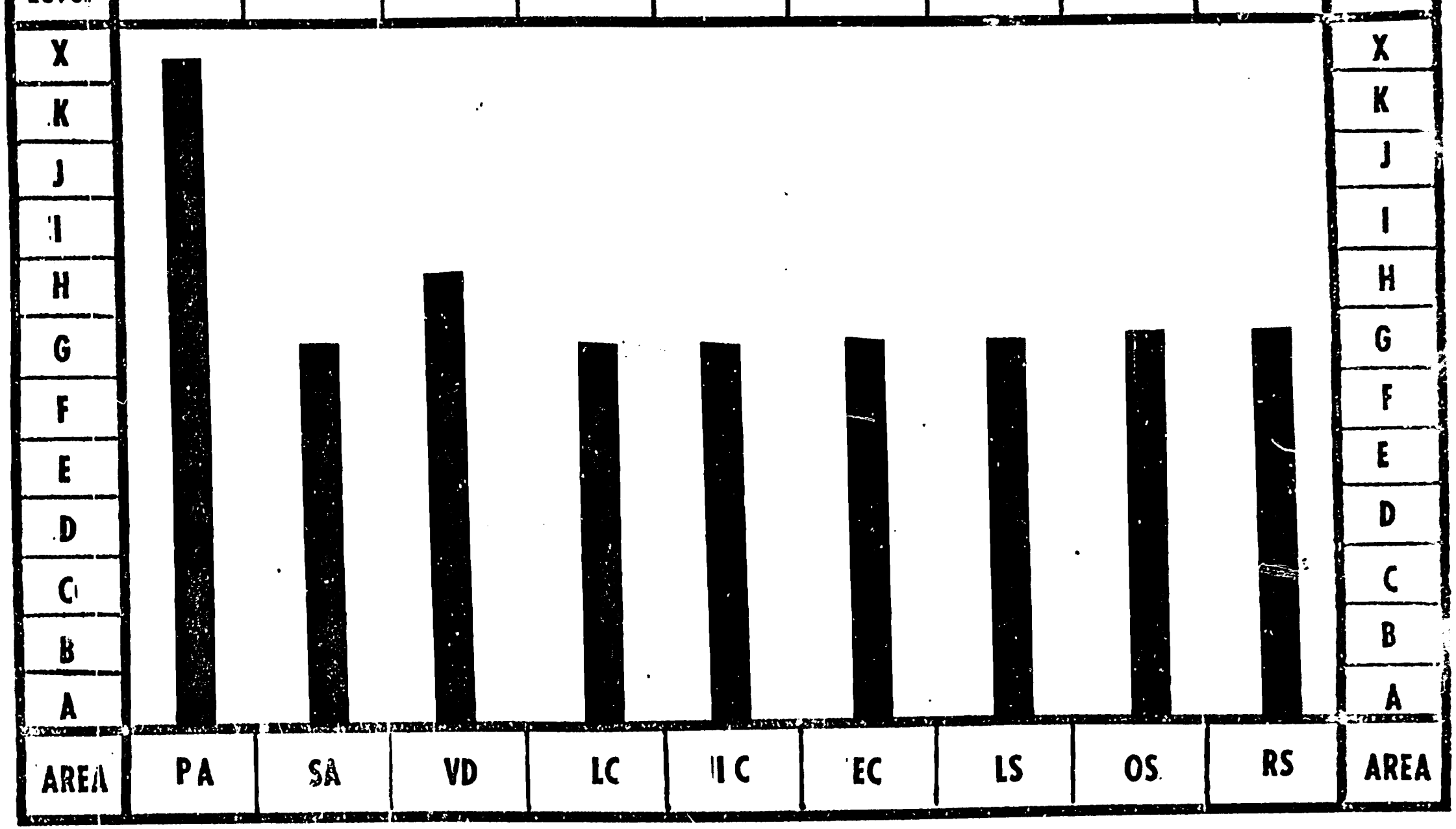


Fig. 26 **MEDIAN LEVEL PER AREA**

Tables 6 through 15 show the distribution of Mathematics Placement Test scores for a number of individual sites.

Tables 16 through 21 show the distribution of Reading Placement Test scores for a sample of individual sites.

Tables 22 and 23 represent the distribution of Placement Test scores for all sites combined. (One site, a non-ABE center, has been excluded from the total).

It is clear that the great majority of ABE students place well within the confines of the program; and that, with the exception of the one non-ABE center, the content is none too simple for them.

The Tables also indicate the variability between the sites. For example, in Reading, Site 1 and 2 students placed largely at the lower Levels; Site 4, 5 and 6 students placed at the higher Levels.

The variability between students in a given site is shown by the range of Levels within an Area. Site 4 students, for example, placed at Level A through Level H in Fractions. (Table 9)

TABLE 6

MATHEMATICS PLACEMENT LEVELS : SITE 1

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION			17	33	33	17				E
PLACE VALUE	X		17	33	33	17				E
ADDITION					33	34	33			F
SUBTRACTION	X	X		50	17	33				E
MULTIPLICATION	X	X	X	17	66	17				E
DIVISION	X	X	X	17	66	17				E
COMBINATION OF PROCESSES	X	X		33	50	17				E
FRACTIONS			17	17	66					E
MONEY	X			17	33	50	X	X		F
TIME	X		17	17	33	33		X		E
SYSTEMS OF MEASUREMENT	X		17	17	66			X		E
GEOMETRY	X			66	34					D

* X: Tested out of Area

X - Not taught at that Level

TABLE 7

MATHEMATICS PLACEMENT LEVELS : SITE 2**

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION		3	28	52	17					D
PLACE VALUE	X	10	17	39	28	3	3			D
ADDITION		3		10	24	24	32	7		F
SUBTRACTION	X	X		34	28	17	21			E
MULTIPLICATION	X	X	X	24	39	34	3			E
DIVISION	X	X	X	37	32	24	7			E
COMBINATION OF PROCESSES	X	X	24	34	29	10	3			D
FRACTIONS		3	42	38	17					D
MONEY	X	3	3	35	28	28	X	X	3	E
TIME	X	3	7	45	24	14	7	X		D
SYSTEMS OF MEASUREMENT	X	3	34	39	21	3		X		D
GEOMETRY	X		10	73	17					D

* X: Tested out of Area

** Followed placement procedures to completion

X - Not taught at that Level

TABLE 8

MATHEMATICS PLACEMENT LEVELS : SITE 3

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION		18	9	54	14	5				D
PLACE VALUE	X	31	23	23	23					C
ADDITION			9	5	32	32	13	9		F
SUBTRACTION	X	X	23	14	35	23	5			E
MULTIPLICATION	X	X	X	18	50	32				E
DIVISION	X	X	X	54	9	32	5			D
COMBINATION OF PROCESSES	X	X	72	5	18		5			C
FRACTIONS		14	45	18	18	5				C
MONEY	X	9	23	5	35	14	X	X	14	E
TIME	X	32	35	14	9	5	5	X		C
SYSTEMS OF MEASUREMENT	X	23	27	41	9			X		D
GEOMETRY	X	14	27	50	9					D

* X: Tested out of Area

X - Not taught at that Level

MATHEMATICS PLACEMENT LEVELS : SITE 4**

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION		4	4	34	29	21	8			E
PLACE VALUE	X	4	4	42	8	21	21			E
ADDITION				4	21	25	37	13		G
SUBTRACTION	X	X		4	34	25	37			F
MULTIPLICATION	X	X	X	21	21	29	25	4		F
DIVISION	X	X	X	25	17	33	25			F
COMBINATION OF PROCESSES	X	X	37		17	25	17	4		E
FRACTIONS	4	8	17	4	13	37	13	4		F
MONEY	X	13			21	29	X	X	37	F
TIME	X		8	17	8	41	13	X	13	F
SYSTEMS OF MEASUREMENT	X	17	4	17	32	13	17	X		E
GEOMETRY	X	13	8	25	25	25	4			E

* X: Tested out of Area

X Not taught at that Level

** Followed placement procedures to completion

TABLE 10

MATHEMATICS PLACEMENT LEVELS : SITE 5

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION		20	23	37	7	10	3			D
PLACE VALUE	X	27	13	27	7	13	10	3		D
ADDITION	3		20	7	26	17	20	7		E
SUBTRACTION	X	X	16	31	13	17	20	3		E
MULTIPLICATION	X	X	X	41	23	23		13		E
DIVISION	X	X	X	48	13	23	13	3		E
COMBINATION OF PROCESSES	X	X	56	13	7	7	10	7		C
FRACTIONS	3	20	30	13	13	7	7	7		C
MONEY	X	17	13	27	17	13	X	X	13	D
TIME	X	13	31	33	3	10	10	X		D
SYSTEMS OF MEASUREMENT	X	27	17	33	3	3	17	X		D
GEOMETRY	X	7	13	54	17	3	3	3		D

* X: Tested out of Area

X - Not taught at that Level

TABLE 11

MATHEMATICS PLACEMENT LEVELS : SITE 6

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION				67	33					D
PLACE VALUE		22		56	22					D
ADDITION					78	22				E
SUBTRACTION			11	22	45	22				E
MULTIPLICATION				11	89					E
DIVISION				56	33	11				D
COMBINATION OF PROCESSES			11	78		11				D
FRACTIONS		11	33	45	11					D
MONEY				33	22	45				E
TIME				89	11					D
SYSTEMS OF MEASUREMENT		22		67	11					D
GEOMETRY			11	33	56					E

* X: Tested out of Area

\ Not taught at that Level

TABLE 12

MATHEMATICS PLACEMENT LEVELS : SITE 7**

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION			7	13	24	37	15	2	2	F
PLACE VALUE	X		4	7	28	11	37	9	4	G
ADDITION				2	22	17	28	29	2	G
SUBTRACTION	X	X	2	2	19	22	36	19		G
MULTIPLICATION	X	X	X	6	20	19	11	42	2	G
DIVISION	X	X	X	9	19	26	37	9		F
COMBINATION OF PROCESSES	X	X	15	2	24	9	29	19	2	G
FRACTIONS		2	4	7	19	31	26	11		F
MONEY	X		2	9	13	17	X	X	59	X
TIME	X			13	15	33	30	X	9	F
SYSTEMS OF MEASUREMENT	X		7	13	26	15	33	X	6	F
GEOMETRY	X			22	22	32	22	2		F

* X: Tested out of Area

X - Not taught at that Level

** Non-ABE site; not included in Total

TABLE 13

MATHEMATICS PLACEMENT LEVELS : SITE 8

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION			8	26	35	26	5			E
PLACE VALUE	X	5	3	31	27	14	19	1		E
ADDITION			3	10	37	30	17	3		E
SUBTRACTION	X	X	2	16	34	34	14			E
MULTIPLICATION	X	X	X	15	36	36	7	6		F
DIVISION	X	X	X	23	26	35	16			F
COMBINATION OF PROCESSES	X	X	9	22	28	23	18			E
FRACTIONS		2	7	21	24	36	10			E
MONEY	X		1	14	24	42	X	X	19	F
TIME	X		5	18	28	35	14	X		E
SYSTEMS OF MEASUREMENT	X	1	4	25	44	14	12	X		E
GEOMETRY	X		2	28	44	19	7			E

* X: Tested out of Area

X - Not taught at that Level

TABLE 14

MATHEMATICS PLACEMENT LEVELS : SITE 9**

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION			3	32	24	30	11			E
PLACE VALUE	X		4	23	18	19	21	15		F
ADDITION			1	1	9	32	35	12	9	G
SUBTRACTION	X	X		11	9	39	31	7	3	F
MULTIPLICATION	X	X	X	4	28	28	19	16	5	F
DIVISION	X	X	X	14	14	34	35	3		F
COMBINATION OF PROCESSES	X	X	8	15	18	14	27	15	3	F
FRACTIONS			14	14	21	21	19	8	3	F
MONEY	X		1	12	15	20	X	X	52	X
TIME	X		1	15	24	38	11	X	11	F
SYSTEMS OF MEASUREMENT	X		3	23	28	19	19	X	8	E
GEOMETRY	X			28	31	26	11	4		E

* X: Tested out of Area

** Followed placement procedures to completion

X - Not taught at that Level

TABLE 15

MATHEMATICS PLACEMENT LEVELS : SITE 10**

AREA	PER CENT AT EACH LEVEL									MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	X*	
NUMERATION			14	31	21	34				E
PLACE VALUE	X	3	21	24	24	14	14			E
ADDITION			7	7	17	31	38			F
SUBTRACTION	X	X	7	14	21	34	24			F
MULTIPLICATION	X	X	X	17	31	38	14			F
DIVISION	X	X	X	24	21	34	21			F
COMBINATION OF PROCESSES	X	X	32	3	24	17	17	7		E
FRACTIONS			28	7	28	34	3			E
MONEY	X	3	7	10	24	32	X	X	24	F
TIME	X		7	21	10	52	10	X		F
SYSTEMS OF MEASUREMENT	X	3	21	13	28	28	7	X		E
GEOMETRY	X	7	14	32	34	10	3			D

* X: Tested out of Area

X - Not taught at that Level

** Followed placement procedures to completion

TABLE 16

READING PLACEMENT LEVELS : SITE 1

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS	14	58	7	7								14	B
STRUCTURAL ANALYSIS		7	36	57									D
VOCABULARY DEVELOPMENT	14	7	21	51		7							D
LITERAL COMPREHENSION	14	21	14	7		44							D
INTERPRETIVE COMPREHENSION	50	50											B
EVALUATIVE COMPREHENSION		14	65			21							C
LIBRARY SKILLS			100										C
ORGANIZATIONAL SKILLS						100							F
REFERENCE SKILLS		14			57	29							E

TABLE 17

READING PLACEMENT LEVELS : SITE 2

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS	6	6	31	51								6	D
STRUCTURAL ANALYSIS		6	3	82	9								D
VOCABULARY DEVELOPMENT		6	3	78	13								D
LITERAL COMPREHENSION	3	3		34	54	6							E
INTERPRETIVE COMPREHENSION	3	3	3	72	16	3							D
EVALUATIVE COMPREHENSION		6	3	63	22	6							D
LIBRARY SKILLS			13	65	19	3							D
ORGANIZATIONAL SKILLS						100							F
REFERENCE SKILLS		94				6							B

* X: Tested out of Area ╳ : Not taught at that Level

TABLE 18

READING PLACEMENT LEVELS : SITE 3**

PER CENT AT EACH LEVEL

AREA	A	B	C	D	E	F	G	H	I	J	K	X*	MEDIAN LEVEL PER AREA
PHONETIC ANALYSIS					X	X	X	X	X	X	X	100	X
STRUCTURAL ANALYSIS				1	4	17	13	22	3	29	7	4	H
VOCABULARY DEVELOPMENT					7	12	5	14	31	20	7	4	I
LITERAL COMPREHENSION					7	3	31	15	13	12	16	3	H
INTERPRETIVE COMPREHENSION					8	12	12	18	22	16	11	1	I
EVALUATIVE COMPREHENSION	X			1	7	11	16	27	20	13	5		H
LIBRARY SKILLS	X	X		3	5	13	13	16	17	23	X	10	I
ORGANIZATIONAL SKILLS	X	X	X	X	X	21	20	12	18	23	3	3	H
REFERENCE SKILLS	X		X	X	6	13	14	23	11	25	4	4	H

* X: Tested out of Area X : Not taught at that Level ** Non-ABE site; not included in Total

TABLE 19

READING PLACEMENT LEVELS : SITE 4

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS				2								98	X
STRUCTURAL ANALYSIS				1	9	23	18	26	4	9	4	6	G
VOCABULARY DEVELOPMENT				1	4	12	6	23	22	9	10	13	I
LITERAL COMPREHENSION					1	16	37	16	10	4	3	13	G
INTERPRETIVE COMPREHENSION				1	4	16	18	34	9	9	3	6	H
EVALUATIVE COMPREHENSION			1	1	3	11	44	17	10	6	4	4	G
LIBRARY SKILLS			1		4	21	23	13	18	9		11	H
ORGANIZATIONAL SKILLS						26	28	10	14	7	6	9	G
REFERENCE SKILLS					7	27	19	18	11	6		12	G

TABLE 20

READING PLACEMENT LEVELS : SITE 5**

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS		4		14	X	X	X	X	X	X	X	82	X
STRUCTURAL ANALYSIS		3	4	10	6	21	21	12	1	12	9	1	G
VOCABULARY DEVELOPMENT		1	3	11	7	6	7	11	25	9	10	10	I
LITERAL COMPREHENSION		1		11	3	4	22	22	11	9	4	13	H
INTERPRETIVE COMPREHENSION		3	1	11	4	12	16	12	11	12	12	6	H
EVALUATIVE COMPREHENSION	X	1	3	7	3	20	31	12	3	13	6	1	G
LIBRARY SKILLS	X	X	4	16	4	7	25	12	10	6	X	16	G
ORGANIZATIONAL SKILLS	X	X	X	X	X	45	28	3	3	3	12	6	G
REFERENCE SKILLS	X	3	X	X	16	25	9	18	4	11	1	13	G

* X: Tested out of Area X: Not taught at that Level ** Followed placement procedures to completion

TABLE 21

READING PLACEMENT LEVELS : SITE 6**

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS			4	7								89	X
STRUCTURAL ANALYSIS			7	4	22	14	7	21		7	14	4	G
VOCABULARY DEVELOPMENT			4	7	14	11	14	14	14	4	11	7	H
LITERAL COMPREHENSION				11	11	11	20	14	11	14	4	4	G
INTERPRETIVE COMPREHENSION			4	7	18	7	14	18	18		10	4	H
EVALUATIVE COMPREHENSION			4	11	7	13	18	11	18	7	7	4	G
LIBRARY SKILLS			4	11	11	11	14	14	20	4		11	H
ORGANIZATIONAL SKILLS						39	11	7	21	7	11	4	H
REFERENCE SKILLS					25	11	14	11	21	7	4	7	H

TABLE 22

MATHEMATICS PLACEMENT LEVELS : SITE 1-6; 8-10

	PER CENT AT EACH LEVEL									
AREA	A	B	C	D	E	F	G	H	X*	MEDIAN LEVEL PER AREA
NUMERATION		4	10	35	25	21	5			E
PLACE VALUE	X	9	9	29	20	14	15	4		E
ADDITION	1	1	4	6	27	28	25	6	2	F
SUBTRACTION	X	X	4	18	24	31	20	2	1	F
MULTIPLICATION	X	X	X	16	35	31	10	7	1	E
DIVISION	X	X	X	27	21	32	19	1		F
COMBINATION OF PROCESSES	X	X	20	19	21	18	16	5	1	E
FRACTIONS	1	4	19	18	22	23	9	3	1	E
MONEY	X	4	4	15	22	30	X	X	25	F
TIME	X	4	9	23	20	30	11	X	3	E
SYSTEMS OF MEASUREMENT	X	7	11	28	28	13	11	X	2	E
GEOMETRY	X	3	7	37	31	15	6	1		E

* X: Tested out of Area

X - Not taught at that Level

TABLE 23

READING PLACEMENT LEVELS : SITE 1-2; 4-6

AREA	PER CENT AT EACH LEVEL												MEDIAN LEVEL PER AREA
	A	B	C	D	E	F	G	H	I	J	K	X*	
PHONETIC ANALYSIS	1	5	4	11	X	X	X	X	X	X	X	79	X
STRUCTURAL ANALYSIS		2	4	15	9	17	15	18	2	8	6	4	G
VOCABULARY DEVELOPMENT	1	1	2	15	6	10	6	15	18	7	9	10	H
LITERAL COMPREHENSION	1	2	1	8	9	13	25	14	9	6	3	9	G
INTERPRETIVE COMPREHENSION	3	4	1	12	6	12	14	22	9	7	5	5	G
EVALUATIVE COMPREHENSION	X	2	5	10	5	13	32	13	7	7	4	2	G
LIBRARY SKILLS	X	X	9	12	6	13	20	11	13	6	X	10	G
ORGANIZATIONAL SKILLS	X	X	X	X	X	44	22	6	10	5	7	6	G
REFERENCE SKILLS	X	12	X	X	12	23	13	14	9	6	1	10	G

* X: Tested out of Area X : Not taught at that Level

Variability within an individual student is demonstrated by the exact copy of a Placement Profile on page 78, in which the student goes from Level D in Fractions to an X (out of the Continuum) in the Area of Money.

The Placement Tests, accurately administered and scored at the beginning of the program, should serve as the sole instrument by which to obtain baseline scores. Gain or progress in the program could be easily measured through the use of:

b. Periodic Profile Reports

The idea of using Periodic Profile Reports (pages 79) to assess progress was abandoned this year when it became apparent that there were too many other problems precluding the possibility of correlating individual student biographical data, Placement Test scores and Periodic Profile Reports. A number of sites were able to do their own similar evaluation and, in general, those sites correctly utilizing the program were very satisfied with the gain their students were making.

IPI MATHEMATICS PLACEMENT PROFILE

John Browning
STUDENT NAME

MATHEMATICS AREA	DATE OF TEST		PLACEMENT LEVELS								PLACED AT LEVEL
			B	C	D	E	F	G	H	
NUMERATION (01)	2/9/71	Max Pts.				5	5			F
		Score				4	3			
		%				80	60			
PLACE VALUE (02)		Max Pts.				7				E
		Score				2				
		%				29				
ADDITION (03)		Max Pts.				5	5	5		G
		Score				5	4	2		
		%				100	80	40		
SUBTRACTION (04)		Max Pts.				5	5	5		F
		Score				5	4	0		
		%				100	80	0		
ADDITION/ SUBTRACTION (34)		Max Pts.								
		Score								
		%								
MULTIPLICATION (05)		Max Pts.				5	5			F
		Score				5	3			
		%				100	60			
DIVISION (06)		Max Pts.				5	5			F
		Score				5	2			
		%				100	40			
MULTIPLICATION/ DIVISION (56)		Max. Pts.								
		Score								
		%								
COMBINATION OF PROCESSES (07)		Max Pts.				4				E
		Score				3				
		%				75				
FRACTIONS (08)		Max Pts			5	10				D
		Score			3	0				
		%			60	0				
MONEY (09)		Max Pts.				2	3			X
		Score				2	3			
		%				100	100			
TIME (10)		Max Pts.				4	3			F
		Score				4	2			
		%				100	67			
SYSTEMS OF MEASUREMENT (11)		Max Pts.				5				E
		Score				2				
		%				40				
GEOMETRY (12)		Max Pts.				5	9			F
		Score				4	3			
		%				80	33			

IPI M FORM 3 7-70

IPI

PERIODIC PROFILE RECORD

Student ID Label (paste here)

Report Period Number
(please circle)

02 03 04 05 06 07 08 09

IPI MATHEMATICS

Area	Level in which Student is now Placed
Numeration	
Place Value	
Addition	
Subtraction	
Multiplication	
Division	
Combination of Processes	
Fractions	
Money	
Time	
Systems of Measurement	
Geometry	

IPI READING

Area	Level in which Student is now Placed
Phonetic Analysis	
Structural Analysis	
Vocabulary Development	
Literal Comprehension	
Interpretive Comprehension	
Evaluative Comprehension	
Library Skills	
Organizational Skills	
Reference Skills	

c. ILA Mathematics Achievement Test

In lieu of using the Periodic Profile Reports, it was decided to develop an achievement test (shown in the Appendix) to be administered to a sample of student from the most active sites. The instrument was administered at the end of March, 1971 and then again, to the same students, at the end of May, 1971.

All items on the test were selected from the Adult-IPI Placement Tests and thus represent the critical performance objectives of the program which all students are expected to master before completing the Continuum. Use of a standardized test was deemed inappropriate for the following reasons:

1) there are no such tests really suitable for use with an adult propulation.[1]

2) the philosophy behind the selection of items on a standardized (i.e. norm-referenced) test is irrelevant to the goals of a program based upon performance objectives.[2] That is, items on a norm-referenced test are selected on the basis of their discriminability; those items which few or most students can answer are excluded. There is, therefore, little way in which students at the bottom or at the top of the Adult-IPI Continuum can demonstrate gain.

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[1] Cleary, T. Anne, "The Evaluation Design for RFD", RFD Newsletter, February 1971. University Extension, the University of Wisconsin.

[2] Tyler, Ralph W. "Why Criterion-Referenced Tests are Necessary; Testing for Accountability", in The Education Digest, March 1971.

Selection of items from all Levels of the Adult-IPI Placement Tests assured us of a truly criterion-referenced test, one on which students working at all Levels of the Continuum could demonstrate some progress within an eight-week period.

To assure that the items selected for inclusion on the Achievement Test did, indeed, represent the hierarchy of behaviors inherent in the Continuum, an item analysis was run on the results of the first (March) test administration. Tables 24a and 24b illustrate the percentage of correct responses (from the total of seven sites) on each of the 69 items. Table 25 shows the percentage of students (from the total of seven sites) responding correctly in terms of the average of all items at each Level of an Area. (The intersection of a Level and an Area is termed a Unit in the Adult-IPI system. Table 25 thus represents a Unit, rather than an individual Item analysis.)

The direction of percentages of correct responses is generally what would have been predicted, i.e. fewer and fewer correct responses as one goes up the hierarchy. The exception to this, Levels B and C in Numeration/Place Value and Addition/Subtraction seem to be caused by two Level B items in both Areas which are apparently too difficult at that Level. Another (tentative) explanation is that few adults placed and, therefore, did not work in Level B. Thus, the assumption, easily made with an elementary school population that placement at a higher Level "guarantees" knowledge of lower Level content, cannot be so easily made with an adult population.

No. of Sites

Item	Unit*	C F
Page 1		
1)	B-NPV	
2)	"	
3)	"	
4)	C-NPV	
5)	"	
Page 2		
1)	D-NPV	
2)	"	
3)	"	
4)	E-NPV	
Page 3		
1)	E-NPV	
2)	"	
3)	F-NPV	
4)	"	
Page 4		
1)	G-NPV	
2)	"	
3)	"	
4)	H-NPV	
Page 5		
1)	B-AS	
2)	"	
3)	C-AS	
4)	D-AS	
5)	E-AS	
Page 6		
1)	F-AS	
2)	G-AS	
3)	"	
4)	H-AS	

* Unit: Combin
and an Area

TABLE 24a

ITEM ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

First Administration (March 1971)

tes = 7

No. of S

No. of I

	Freq. Correct Responses	%
	85	60
	133	94
	102	72
	118	83
	126	89
	128	90
	58	41
	73	51
	90	63
	25	18
	43	30
	42	30
	58	41
	11	8
	13	9
	5	4
	0	0
	90	63
	131	92
	123	87
	89	63
	73	51
	49	35
	35	25
	39	27
	13	9

bination of a Level
ea

Item	Unit*	C R
Page 7		
1)	D-MD	
2)	E-MD	
3)	F-MD	
4)	"	
5)	G-MD	
6)	"	
Page 8		
1)	G-MD	
2)	H-MD	
3)	"	
Page 9		
1)	H-MD	
2)	"	
3)	"	
4)	"	
Page 10		
1)	E-COP	
2)	"	
3)	F-COP	
4)	G-COP	
Page 11		
1)	H-COP	
Page 12		
1)	H-COP	

NPV : Numeratio

AS : Addition/

MD : Multiplic

COP : Combinati

EST

f Students = 142

f Items = 70

	Freq. Correct Response	%
	77	54
	67	47
	39	27
	32	23
	19	13
	44	31
	5	4
	0	0
	0	0
	11	8
	4	3
	5	4
	1	1
	65	46
	65	46
	53	37
	52	37
	17	12
	4	3

tion/Place Value

on/Subtraction

lication/Division

ation of Processes

TABLE 24b

ITEM ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

First Administration (March 1971)

No. of Sites = 7

No. of Students = 142

No. of Items = 70

Item	Unit*	Freq. Correct Response	%
Page 13			
1)	B-Fr.	114	80
2)	C-Fr.	103	73
3)	D-Fr.	91	64
Page 14			
1)	E-Fr.	62	44
2)	"	47	33
3)	F-Fr.	24	17
4)	G-Fr.	26	18
5)	"	30	21
Page 15			
1)	G-Fr.	4	3
2)	H-Fr.	1	1
3)	B-SOM	77	54
4)	D-SOM	77	54
5)	E-SOM	79	56

Item	Unit*	Freq. Correct Response	%
Page 16			
1)	C-Geo.	105	74
Page 17			
1)	D-Geo.	124	87
2)	"	131	92
3)	"	100	70
4)	"	68	48
Page 18			
1)	E-Geo.	71	50
2)	"	103	73
3)	"	5	4
4)	G-Geo.	0	0
5)	"	14	10
Page 19			
1)	H-Geo.	0	0

Fr. : Fractions

SOM : Systems of Measurement

Geo.: Geometry

* Unit: Combination of a Level and an Area

TABLE 25

UNIT ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

(Per Cent of Students Responding Correctly to Items Representing Units of the Continuum)

First Administration (March 1971)

No. of Sites = 7

No. of Students = 142

No. of Units = 38

	LEVEL						
AREA	B	C	D	E	F	G	H
NUMERATION/ PLACE VALUE	75	86	68	37	36	7	0
ADDITION/ SUBTRACTION	78	87	63	51	35	26	9
MULTIPLICATION/ DIVISION	X	X	54	47	25	16	0
COMBINATION OF PROCESSES	X	X	—	46	37	37	8
FRACTIONS	80	73	64	39	17	14	1
SYSTEMS OF MEASUREMENT	54	—	54	56	—	—	X
GEOMETRY	—	74	74	42	—	5	0

X: Not taught at that Level

—: No test items at that Level

The ILA Mathematics Achievement Test was readministered to the same students approximately eight weeks after the first administration. The actual number of hours of classroom instruction represented by this interval ranged from 24 to 60 in the various sites. A cursory examination of the two sets of scores showed a direct (and unsurprising) correlation between number of test points gained and hours in the program.

The number of students on the second test administration is considerably lower than on the first. The following were given as reasons for student termination:

1. The usual personal and/or employment conflicts
2. Discharged from the Center for "non-educational" reasons
3. Completion of the Adult-IPI Mathematics Continuum in the two month interval
4. Attainment of educational goal; i.e. passing the GED examination

The last two causes of student termination are most satisfying in terms of evaluating the effectiveness of the Adult-IPI system - even at the expense of reducing the size of the sample and losing the large "gain" scores which would have been achieved by these obviously highly motivated students.

Given the loss of approximately forty per cent of the sample, it was expected that there would be qualitative differences in the results of the

Item Analyses of the two test administrations. Tables 26a and 26b illustrate the percentage of correct responses (from the total of seven sites) on each of the 69 items. In general, there were very few changes. The basic hierarchal structure of the Mathematics Continuum is demonstrated in the decreasing percentage of correct responses to the progressively harder Levels.

Table 28, which shows the percentage of students responding correctly in terms of the average of all items at each Level of an Area (called a Unit) more clearly illustrates the increasing difficulty of the Levels. The only major reversal (not found in the March Administration) is in the Area of Fractions, where students did better on Levels G and H than they did on Level F.

TABLE 26a
ITEM ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

Second Administration (May 1971)

No. of Sites = 7

No. of Students = 84

No. of Items = 69

Item	Unit*	Freq. Correct Responses	%
Page 1			
1)	B-NPV	56	67
2)	"	79	94
3)	"	70	83
4)	C-NPV	76	90
5)	"	78	93
Page 2			
1)	D-NPV	76	90
2)	"	63	75
3)	"	57	68
4)	E-NPV	62	74
Page 3			
1)	E-NPV	39	46
2)	"	48	57
3)	F-NPV	38	45
4)	"	61	73
Page 4			
1)	G-NPV	25	30
2)	"	31	37
3)	"	16	19
4)	H-NPV	4	5
Page 5			
1)	B-AS	66	79
2)	"	81	96
3)	C-AS	74	88
4)	D-AS	56	67
5)	E-AS	56	67
Page 6			
1)	F-AS	44	52
2)	G-AS	31	37
3)	"	39	46
4)	H-AS	21	25
Page 7			
1)	D-MD	65	77
2)	E-MD	57	68
3)	F-MD	37	44
4)	"	24	29
5)	G-MD	26	31
6)	"	42	50
Page 8			
1)	G-MD	17	20
2)	H-MD	17	20
3)	"	7	8
Page 9			
1)	H-MD	17	20
2)	"	16	19
3)	"	20	24
4)	"	11	13
Page 10			
1)	E-COP	48	57
2)	"	48	57
3)	F-COP	36	43
4)	G-COP	45	54
Page 11			
1)	H-COP	26	31
Page 12			
1)	H-COP	17	20

* Unit: Combination of a Level and an Area

NPV : Numeration/Place Value

AS : Addition/Subtraction

MD : Multiplication/Division

COP : Combination of Processes

TABLE 26b

ITEM ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

Second Administration (May 1971)

No. of Sites = 7

No. of Students = 84

No. of Items = 69

Item	Unit*	Freq. Correct Responses	%
Page 13			
1)	B-Fr.	77	92
2)	C-Fr.	73	87
3)	D-Fr.	65	77
Page 14			
1)	E-Fr.	53	63
2)	"	43	51
3)	F-Fr.	8	10
4)	G-Fr.	28	33
5)	"	35	42
Page 15			
1)	G-Fr.	22	26
2)	H-Fr.	39	46
3)	B-SOM	50	60
4)	D-SOM	61	73
5)	E-SOM	62	74

Item	Unit*	Freq. Correct Responses	%
Page 16			
1)	C-Geo.	71	84
Page 17			
1)	D-Geo.	80	95
2)	"	78	93
3)	"	72	86
4)	"	47	56
Page 18			
1)	E-Geo.	45	54
2)	"	59	70
3)	"	22	26
4)	G-Geo.	11	13
5)	"	12	14
Page 19			
1)	H-Geo.	4	5

Fr. : Fractions

SOM : Systems of Measurement

Geo. : Geometry

* Unit: Combination of a Level and an Area

TABLE 27

UNIT ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

(Per Cent of Students Responding Correctly to Items Representing Units of the Continuum)

Second Administration (May 1971)

No. of Sites = 7

No. of Students = 84

No. of Units = 38

	LEVEL						
AREA	B	C	D	E	F	G	H
NUMERATION/ PLACE VALUE	81	92	78	59	59	29	5
ADDITION/ SUBTRACTION	88	88	67	67	52	42	25
MULTIPLICATION/ DIVISION	X	X	77	68	37	34	17
COMBINATION OF PROCESSES	X	X	--	57	43	54	26
FRACTIONS	92	87	77	57	10	34	46
SYSTEMS OF MEASUREMENT	60	--	73	74	--	--	X
GEOMETRY	--	84	83	50	--	14	5

X: Not taught at that Level

--: No test items at that Level

Table 28 shows the comparisons between the two test administrations on the percentages of correct responses to all items for all students in the seven sites. On 66 of the 69 items, there was an increase (often quite large) in the percentage of correct responses from the first to the second test administration. There were no differences on Items: Page 1 (2) and Page 2 (1) but both of these were correctly answered by over 90 per cent of the students on the first test administration. Item: Page 14 (13) represents the only decrease. Interestingly, it is an item testing symbology (< or >) as well as mathematical operations, and this finding quite substantiates teachers' comments that adults have trouble understanding these symbols as they are now taught.

Table 29, which shows the comparison between the two test administrations in terms of per cent of students responding correctly to all items representing a Unit, is the most graphic illustration of the amount of gain made by students in the Adult-IPI program over a two month period.

Gains were made in all Areas and at all Levels. It is interesting that gains were made at Levels B and C as very few students were working at these Levels at this point of the year. Conversely, the changes in percentage at Level H can be attributed only to those students currently working at that Level (or very close to it), as student who completed Level H were no longer in the program.

TABLE 28

ITEM ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

Comparison of the Two Test Administrations

No. of Sites = 7
No. of Items = 69

No. Students (March) = 142
No. Students (May) = 84

Item	Unit*	% Correct Responses Mar.	May
Page 1			
1)	B-NPV	60	67
2)	"	94	94
3)	"	72	83
4)	C-NPV	83	90
5)	"	89	93
Page 2			
1)	D-NPV	90	90
2)	"	41	75
3)	"	51	68
4)	E-NPV	63	74
Page 3			
1)	E-NPV	18	46
2)	"	30	57
3)	F-NPV	30	45
4)	"	41	73
Page 4			
1)	G-NPV	8	30
2)	"	9	37
3)	"	4	19
4)	H-NPV	0	5
Page 5			
1)	B-AS	63	79
2)	"	92	96
3)	C-AS	87	88
4)	D-AS	63	67
5)	E-AS	51	67
Page 6			
1)	F-AS	35	52
2)	G-AS	25	37
3)	"	27	46
4)	H-AS	9	25
Page 7			
1)	D-MD	54	77
2)	E-MD	47	68
3)	F-MD	27	44
4)	"	23	29
5)	G-MD	13	31
6)	"	31	50
Page 8			
1)	G-MD	4	20
2)	H-MD	0	20
3)	"	0	8
Page 9			
1)	H-MD	8	20
2)	"	3	19
3)	"	4	24
4)	"	1	13
Page 10			
1)	E-COP	46	57
2)	"	46	57
3)	F-COP	37	43
4)	G-COP	37	54
Page 11			
1)	H-COP	12	31
Page 12			
1)	H-COP	3	20
Page 13			
1)	B-Fr.	80	92
2)	C-Fr.	73	87
3)	D-Fr.	64	77
Page 14			
1)	E-Fr.	44	63
2)	"	33	51
3)	F-Fr.	17	10
4)	G-Fr.	18	33
5)	"	21	42
Page 15			
1)	G-Fr.	3	26
2)	H-Fr.	1	46
3)	B-SOM	54	60
4)	D-SOM	54	73
5)	E-SOM	56	74
Page 16			
1)	C-Geo.	74	84
Page 17			
1)	D-Geo.	87	95
2)	"	92	93
3)	"	70	86
4)	"	48	56
Page 18			
1)	E-Geo.	50	54
2)	"	73	70
3)	"	4	26
4)	G-Geo.	0	13
5)	"	10	14
Page 19			
1)	H-Geo.	0	5

NPV : Numeration/Place Value

AS : Addition/Subtraction

MD : Multiplication/ Division

COP : Combination of Processes

Fr. : Fractions

SOM : Systems of Measurement

Geo. : Geometry

*Unit: Combination of a Level and an Area

TABLE 29

UNIT ANALYSIS: ILA MATHEMATICS ACHIEVEMENT TEST

(Per Cent of Students Responding Correctly to Items Representing Units of the Continuum)

Comparison of the Two Test Administrations*

No. of Sites = 7

No. of Units = 38

No. of Students (March) = 142

No. of Students (May) = 84

	LEVEL						
AREA	B	C	D	E	F	G	H
NUMERATION/ PLACE VALUE	75 81	86 92	68 78	37 59	36 59	7 29	0 5
ADDITION/ SUBTRACTION	78 88	87 88	63 67	51 67	35 52	26 42	9 25
MULTIPLICATION/ DIVISION	X	X	54 77	47 68	25 37	16 34	0 17
COMBINATION OF PROCESSES	X	X	—	46 57	37 43	37 54	8 26
FRACTIONS	80 92	73 87	64 77	39 57	17 10	14 34	1 46
SYSTEMS OF MEASUREMENT	54 60	—	54 73	56 74	—	—	X
GEOMETRY	—	74 84	74 83	42 50	—	5 14	0 5

* Top figure represents the results of the first (March) test administration; Bottom figure represents the results of the second (May) test administration

X: Not taught at that Level

—: No test items at that Level

In order to assure that the observed differences in scores were, indeed, statistically significant differences, t-tests (for related samples) were run. Only those sites with an N of 10 or more were so analyzed. Tables 30 - 33 show the distribution of raw scores in each site and the level of significance of the difference between the two test administrations.

TABLE 30

ILA MATHEMATICS ACHIEVEMENT TEST

Site: 1 (Number of Hours = 48)

Student	March Score	May Score	Difference
1)	52	69	17
2)	45	47	2
3)	43	47	4
4)	43	66	23
5)	41	56	15
6)	39	55	16
7)	38	67	29
8)	33	49	16
9)	30	50	20
10)	30	33	3
11)	27	40	13
12)	25	40	15
13)	25	48	23
14)	24	42	18
15)	23	30	7
16)	19	61	42
17)	14	31	17
18)	9	36	27

Level of Significance: $p < .01$

TABLE 31

ILA MATHEMATICS ACHIEVEMENT TEST

Site: 2 (Number of Hours = 60)

Student	March Score	May Score	Difference
1)	48	62	14
2)	45	59	14
3)	42	60	18
4)	41	45	4
5)	40	43	3
6)	40	47	7
7)	40	30	-10
8)	38	53	15
9)	37	46	9
10)	35	45	10
11)	35	44	9
12)	34	34	0
13)	32	34	2
14)	32	33	1
15)	32	52	20
16)	27	45	18
17)	27	38	11
18)	27	44	17
19)	24	26	2
20)	24	42	18
21)	22	46	24
22)	21	42	21
23)	16	19	3
24)	14	33	19

Level of Significance: $p < .01$

TABLE 32

ILA MATHEMATICS ACHIEVEMENT TEST

Site: 3 (Number of Hours = 60)

Student	March Score	May Score	Difference
1)	38	33	- 5
2)	37	43	6
3)	37	43	6
4)	32	49	17
5)	31	39	8
6)	28	37	9
7)	25	27	2
8)	23	28	5
9)	21	29	8
10)	22	42	20
11)	19	33	14
12)	17	32	15
13)	17	27	10
14)	16	22	6
15)	12	27	15
16)	11	21	10
17)	9	24	15

Level of Significance: $p < .01$

TABLE 33

ILA MATHEMATICS ACHIEVEMENT TEST

Site: 4 (Number of Hours = 24)

Student	March Score	May Score	Difference
1)	38	42	4
2)	34	40	6
3)	22	44	22
4)	18	20	2
5)	17	20	3
6)	15	20	5
7)	12	13	1
8)	12	13	1
9)	10	13	3
10)	3	12	9

Level of Significance : $p < .05$

NOTE: Although no attempt was made to equate scores on the ILA Mathematics Achievement Test with Grade Equivalents, two of the sites did send RBS the results of their "standardized" tests. Because of the surprising finding that a number of students were able to pass the GED upon completion of the Adult-IPI "Basic Education" program, the two sets of scores were examined.

The first site had administered the California Achievement Test approximately one month after the first administration of the ILA Test. As this represented

an additional thirty hours of instruction, a clear statement of equivalency of scores is impossible. Roughly, then, students scoring in the "forties" on the ILA Test had a mean Grade Equivalent Score of 7.0 on the CAT. Students scoring in the "thirties" on the ILA Test had a mean Grade Equivalent Score of 6.4; students scoring in the "twenties" on the ILA Test had a mean of 6.1; and students scoring in the "teens" had a mean Grade Equivalent Score of 5.3

The second site administered the Canadian Test of Basic Skills and the ILA Mathematics Achievement Test to a group of "advanced" students (i.e. not in the Adult-IPI classes). In this site, students scoring in the "fifties" on the ILA Test had a mean Grade Equivalent Score of 9.5 on the CTBS; students scoring in the "forties" had a mean of 9.0; and students scoring in the "thirties" on the ILA Test had a mean Grade Equivalent score of 7.7 on the CTBS.

The samples were small, but the data do suggest that a score in the "sixties" (out of the 69 items on the ILA Mathematics Achievement Test), which would represent near completion of the Continuum, could enable a student to obtain high school grade equivalent scores.

Recommendations

Virtually all data collection problems could be eliminated by limiting the number of field-test sites and assuring site readiness for the program (i.e. all materials available and organized at the beginning of the field-test year).

Problems in the administration of the Placement Tests could be eliminated by:

1. more effective training materials emphasizing both teacher and student orientation to the purpose of the diagnostic instruments

2. revision of the Placement Tests in terms of length (This is being done in the new ILA Mathematics program.)

The evaluation procedures described on pages 13 - 15 of the report are basically sound and can be utilized next year. The only contingency factor is that of RBS control of materials production.

In addition to the data collected for: 1) description of the field-test sites; 2) evaluation of the implementation of the ILA system; 3) modification of program content; and 4) estimation of student gain in the program, statistical analyses should be made of the ILA diagnostic instruments to determine possible discrepancies between performance on these and performance on the Skill Booklets.

SUMMARY AND CONCLUSIONS

The major objective of the current project was to demonstrate the adaptability of the IPI System (Individually Prescribed Instruction), a program initially developed for and extensively disseminated to an elementary school population, to the needs of ABE centers. To do so, the IPI program was modified to appeal to an adult population, and a number of widely varying ABE centers were selected as field-test sites.

The field-test effort served its purpose by enabling RBS to discover the many similarities and various differences in implementing the system in an adult vs. an elementary school setting. Some differences were discernible in every area of the program: these were attributable to the inherently variable, voluntary nature of ABE programs as compared to the basically stable structure of compulsory elementary education. Administrative and Teacher Training programs must be modified to compensate for the absence of full-time administrators, teachers and aides working on a yearly basis with full-time students. Similarly, there is a need for a variety of materials distribution and organizational models to meet the widely varying requirement of the different ABE centers.

In conjunction with evaluating the Adult-IPI system as a whole, the program materials were extensively revised to better fit the needs and interests of adult students. The important factor of "recall", operant in all adults who had had some formal schooling (and, certainly, years of informal learning experiences) permitted the "streamlining" of the elementary program: the

new ILA Mathematics Continuum is presented in five, rather than thirteen Areas; the average number of pages in a skill booklet has been reduced; and the Placement Testing procedures have been simplified. The program, simultaneously, has been broadened to include an Applications Area (covering such "adult" topics as taxes, budgeting and insurance); and the upper Level of all Areas include specific topics designed to assist students in preparing for the GED examination.

The Reading program is being extended into a Communications Skills program, which includes audio and handwriting components. Levels A - D have been completely rewritten to adhere more closely to the decoding approach for initial reading instruction.

All of these changes (system and program content) require extensive modification of the current Training materials; and work on this very important segment is well under way.

The fourth project objective, the development of a research design for the evaluation of the project, was completed in September 1970, with consultant help from Dr. Andrew Halpin and Andrew Hayes of the University of Georgia. Several components of the design (periodic student progress reports, and correlation of teacher/student biographical data with individual and class achievement measures) proved too ambitious for a first year program, but the design is certainly applicable for future field-test efforts.

Data collected for the 1970-71 evaluation served four specific purposes:

1) Data Collected for the Description of the Field-Test Sites; The tabulation of Center and teacher/student biographical data indicate that the selected field-test sites are a representative sample of ABE centers; and that the results of the year's field-testing are, thus, generalizable.

2) Data Collected for the Evaluation of the Implementation of the IPI System: Analysis of the placement Profiles and Prescription Sheets was most useful in identifying areas of misunderstanding of system procedures. Existing problems were usually resolved by consultants on field-site visits; and it is hoped that the revised training materials would eliminate most of these types of problems in the future.

3) Data Collected for Program Content Modification: Program participants, both teachers and students, were encouraged to assist in the curriculum revision by noting (verbally or in writing) any instance of inadequacy or error in the current materials. All notifications were reported to the curriculum writers as they were received.

4) Data Collected for Estimation of Student Gain in the Program: Analysis was made of all Mathematics and Reading Placement Profiles sent in by the field-test sites. In addition to providing base-line achievement data, the Placement Profiles provide assurance that the Adult-IPI curriculum content

is needed by the adult learner; that is, that adults in the ABE centers do need to work in the Levels represented by the Continuum.

The Placement Profiles were also used to illustrate the variability in range between sites (a valuable guide to the development of various materials distribution models); the variability between students within a site; and the variability within an individual in the different Areas of the Continuum.

The fact that adult students do learn in the Adult-IPI system is clearly demonstrated by the results of the ILA Mathematics Achievement Test. The test, consisting of placement-test items representing critical performance objectives from the various Areas and Levels of the Continuum, was administered to a sample of students at the end of March 1971 and then, again, to the same students, at the end of May 1971. Item analyses of the results showed that the items selected for inclusion in the test did represent the hierarchy of behaviors inherent in the Continuum, and that there is, indeed, an existing hierarchy. The results of the second test administration showed an increase in percentage of correct responses on 66 of the 69 items; and that gains were made in all Areas and at all Levels.

To assure that the amount of gain shown in this relatively short period was statistically significant, t-tests (for related samples) were run for those sites with an N of ten or more. In three of the four sites, the difference in scores between the two test administrations was significant at the $p < .01$ level; the level of significance of the difference in the fourth site was $p < .05$.

In conclusion, it has been shown that despite the numerous problems involved in the first attempt to implement the program in a wide variety of ABE centers, the Adult-IPI system does work. The modification of the administrative and teacher training programs, materials distribution models, and the program content itself, together with a reduction in the number of sites needed to field-test the revised materials, should assure a highly successful field-test of the new ILA program.

APPENDICES

4/26/72

ABSTRACT OF FINAL REPORT

CONTINUATION OF APPLYING THE INDIVIDUALLY PRESCRIBED INSTRUCTION SYSTEM TO ABE PROGRAMS IN NEVADA AND OTHER FIELD TEST SITES

RESEARCH FOR BETTER SCHOOLS, INC.

JAMES BECKER, Executive Director
ROBERT SCANLON, Program Director
DONALD DEEP, Project Director
EUGENIA SCHARF, Project Evaluator

JUNE 30, 1971

THE PROJECT REPORTED HEREIN WAS SUPPORTED BY A GRANT FROM THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, OFFICE OF EDUCATION, GRANT NUMBER OE6-0-70-5161 (324) ADULT EDUCATION ACT, SECTION 309 (b)

The major objective of the current project was to demonstrate the adaptability of the IPI System (Individually Prescribed Instruction), a program initially developed for and extensively disseminated to an elementary school population, to the needs of ABE centers. To do so, the IPI program was modified to appeal to an adult population, and a number of widely varying ABE centers were selected as field-test sites.

The field-test effort served its purpose by enabling RBS to discover the many similarities and various differences in implementing the system in an adult vs. an elementary school setting. Some differences were discernible in every area of the program: these were attributable to the inherently variable, voluntary nature of ABE programs as compared to the basically stable structure of compulsory elementary education. Administrative and Teacher Training programs must be modified to compensate for the absence of full-time administrators, teachers and aides working on a yearly basis with full-time students. Similarly, there is a need for a variety of materials distribution and organizational models to meet the widely varying requirements of the different ABE centers.

In conjunction with evaluating the Adult-IPI system as a whole, the program materials were extensively revised to better fit the needs and interests of adult students. The important factor of "recall", operant in all adults who had had some formal schooling (and, certainly, years of informal learning experiences) permitted the "streamlining" of the elementary program: the

new ILA (Individualized Learning for Adults) Mathematics Continuum is presented in five, rather than thirteen Areas; the average number of pages in a skill booklet has been reduced; and the Placement Testing procedures have been simplified. The program, simultaneously, has been broadened to include an Applications Area (covering such "adult" topics as taxes, budgeting and insurance); and the upper Level of all Areas include specific topics designed to assist students in preparing for the GED examination.

The Reading program is being extended into a Communications Skills program, which includes audio and handwriting components. Levels A - D have been completely rewritten to adhere more closely to the decoding approach for initial reading instruction.

Data Collected for the evaluation served four specific purposes:

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that the revised training materials would eliminate most of these types of problems in the future.

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4) Data Collected for Estimation of Student Gain in the Program: Analysis was made of all Mathematics and Reading Placement Profiles sent in by the field-test sites. In addition to providing base-line achievement data, the Placement Profiles provide assurance that the Adult-IPI curriculum content is needed by the adult learner; that is, that adults in the ABE centers do need to work in the Levels represented by the Continuum.

The Placement Profiles were also used to illustrate the variability in range between sites (a valuable guide to the development of various materials distribution models); the variability between students within a site; and the variability within an individual in the different Areas of the Continuum.

The fact that adult students do learn in the Adult-IPI system is clearly demonstrated by the results of the ILA Mathematics Achievement Test. The test, consisting of placement-test items representing critical performance objectives from the various Areas and Levels of the Continuum, was administered to a sample of students at the end of March 1971 and then, again, to the same

students, at the end of May 1971. Item analyses of the results showed that the items selected for inclusion in the test did represent the hierarchy of behaviors inherent in the Continuum, and that there is, indeed, an existing hierarchy. The results of the second test administration showed an increase in percentage of correct responses on 66 of the 69 items; and that gains were made in all Areas and at all Levels.

To assure that the amount of gain shown in this relatively short period was statistically significant, t-tests (for related samples) were run for those sites with an N of ten or more. In three of the four sites, the difference in scores between the two test administrations was significant at the $p < .01$ level; the level of significance of the difference in the fourth site was $p < .05$.

In conclusion, it has been shown that despite the numerous problems involved in the first attempt to implement the program in a wide variety of ABE centers, the Adult-IPI system does work. The modification of the administrative and teacher training programs, materials distribution models, and the program content itself, together with a reduction in the number of sites needed to field-test the revised materials, should assure a highly successful field-test of the new ILA program.

FINAL REPORT

APPENDICES

	SITE NAME AND LOCATION	NO. OF STUDENTS IN PROGRAM *	DESCRIPTION OF STUDENTS
1.	Saskatchewan New Start Center First Avenue East and River St. Prince Albert, Canada Coordinator: Vern Mullin	200	Age: 25-35; male and female; white, Indian; develop job-needed skills to get off relief
2.	P.S. #5 Ingalls and Fifth Avenue Troy, New York 12180 Coordinator: Clem Zotto	30	Age: 16-57; male and female; mostly white; older women completing education; young males trying for GED; older men need skills for job improvement.
3.	Adult Learning Center South Pearl Plaza 222 South Pearl Street Albany, New York 12202 Coordinator: Garrett Murphy	50	Age: 17-47: black, white, Puerto Rican; male and female; develop pre-vocational skills
4.	Washington Irving Educational Center 418 Mumford Street Schenectady, New York 12307 Coordinator: Edwin Agresta	70	Age: 30-40; mostly female; black, white; preparing for high school equivalency
5.	Regional Opportunity Center #2 1910 Arthur Avenue Bronx, New York 10457 Coordinator: Linda Marcus	100	Age: 18-45; male and female; black, Puerto Rican; receive stipend for attending
6.	Regional Opportunity Center #9 815 Broadway Brooklyn, New York 11206 Coordinator: Jack Dixon	50	Same as Regional Opportunity Center #2

* Projected number of students for one year after starting data

	SITE NAME AND LOCATION	NO. OF STUDENTS IN PROGRAM	DESCRIPTION OF STUDENTS
7.	Regional Opportunity Center # 5 601 West 26th Street New York, New York 10001 Coordinator: Sandra McAlowan	100	Same as Regional Opportunity Center # 2
8a.	Project CHOICE c/o YMCA Trade School 401 State Street Brooklyn, New York Coordinator: Susan Heck	40	Age: 19-55; male & female; mostly black and Puerto Rican; acquire skills for job preparation.
8b.	Project CHOICE c/o YMCA Harlem 180 North 135th Street New York, New York 10030 Coordinator: Sharon Williams	40	Same as above.
9.	Central Jr. High School 29 S. Ohio Avenue Atlantic City, New Jersey 08401 Coordinator: Lauchlin MacKinnon	50	Age: 19-55: male & female; 70% black Academic upgrading.
10.	Camden City Learning Center 623 Cooper Street Camden, New Jersey 08105 Coordinator: Bernard Brown	50	Age: 19-55: male & female; 70% black, 30% white and Puerto Rican; Academic and economic upgrading.
11.	Rancocas Valley Regional High School Jacksonville Road Mt. Holly, New Jersey 08060 Coordinator: Lawrence Donahue	50	Age: 19-55; male and female; black, white and Oriental; upgrade selves for economic reasons.

	SITE NAME AND LOCATION	NO. OF STUDENTS IN PROGRAM	DESCRIPTION OF STUDENTS
12.	Board of Education Office East Landis Street Vineland, New Jersey 08360 Coordinator: Carl Simmons	50	Age: 19-55; male and female; black, white, Puerto Rican, Oriental; Academic upgrading.
13.	Spring Garden Learning Center 1812 Green Street Philadelphia, Pennsylvania Coordinator: Sven Borei	60	Age: 18-30; 40% male; black, Puerto Rican; preparing for GED
14.	Philadelphia Adult Basic Education Academy 3723 Chestnut Street Philadelphia, Pennsylvania Coordinator: Sven Borei	40	Very varied population; most preparing for GED
15.	Pittsburgh Training Institute Division of Bidwell Cultural and Training Center 1312 Sheffield Street Pittsburgh, Pennsylvania 15233 Coordinator: June Picket	300	Age: 18-35; male and female; black; need skills for job placement
16.	Connelly Skill Center 1501 Bedford Avenue Pittsburgh, Pennsylvania Coordinator: Sidney Barmak	200	Age: 18-35; mostly males, veterans; 65% black; preparing for GED and improving skills
17.	New Careers ABE Program Mayview State Hospital Bridgeville, Pennsylvania 15017 Coordinator: Barbara Morgan	60	Age: 22-55; male and female; white, black; educational improvement

	SITE NAME AND LOCATION	NO. OF STUDENTS IN PROGRAM	DESCRIPTION OF STUDENTS
18.	New Careers ABE Program Woodville State Hospital Carnegie, Pennsylvania 15106 Coordinator: Barbara Morgan	40	Same as Mayview
19.	Western State Correctional Institution P.O. Box 9901 Pittsburgh, Pennsylvania 15233 Coordinator: Jerry Frisk	60	Age: 17-60; males; black, white; GED preparation; impress probation officer
20.	Oakdale Boys Home P.O. Box 236 Oakdale, Pennsylvania 15071 Coordinator: Joseph Raffaele Vincent Segeleon	30	Age: 16-18; male; black, white; GED preparation
21.	Opportunities Industrialization Center, Inc. 1901 Fifth Avenue Pittsburgh, Pennsylvania 15219 Coordinator: Menwhe Redd Roosevelt Bozer	200	Age: 20-35; males; black; pre-apprenticeship
22.	Penellas County City Center of Learning 850 34th Street South St. Petersburg, Florida 33705 Coordinator: Gerald Caffrey	200	Age: 16-60; male and female; white, black, Oriental; improve math and language skills

	SITE NAME AND LOCATION	NO. OF STUDENTS IN PROGRAM	DESCRIPTION OF STUDENTS
23.	National Institute of Mental Health Clinical Research Center 3150 Horton Road Fort Worth, Texas 76119 Coordinator: Joe Casey	200	Young males; white, Mexican-American; all educational levels; some participate voluntarily, others as a part of their training; all at center because of involvement with drugs.
24.	Adult Basic Education Project 409 South 9th Street Las Vegas, Nevada 89109 Coordinator: Val Garner	250	Age: 16-42; male and female; white, black, Mexican-American; improve academic skills for GED preparation, job upgrading
25.	Hug High School 395 Booth Street Reno, Nevada 89502 Coordinator: Jesse Hall	250	Age: 18-35; male and female; black, white, Indian; basic skills development for GED, job improvement

I P I

ADULT BASIC EDUCATION

1970

September 14, 15, and 16

James W. Becker	Executive Director
Robert G. Scanlon	Director of Individualized Learning Programs
Donald Deep	Director of Adult Education Project
Van Youngman	Coordinator of Adult Basic Education
Eugenia Scharf	Research Assistant
Ethel Schmidt	Research Assistant

Research for Better Schools, Inc.
Suite 1700/1700 Market Street
Philadelphia, Pennsylvania 19103

DAY I

a.m.	9:30	Welcome, Introductions, History of IPI
	10:00	History of Adult IPI Project
	10:30	Coffee Break
	10:45	Why Individualized Instruction?
	11:00	Establishing Behavioral Objectives
p.m.	12.30	Lunch
	2:00	Questions
	2:15	Adult IPI Manual
	2:45	Overview of IPI Film R_x for Learning
	3:45	Your Choice: Place of Aide in IPI (Film strip and Record) IPI Film Re-examination of any visual aides used during the morning
4:30 - 5:00		Individual conferences with staff members.

DAY II

a.m.	9:00	Overview of IPI Math
	9:35	Overview of IPI Reading
	10:15	Coffee Break
	10:45	Prescription Writing
p.m.	12:30	Lunch
	2:00	Prescription Writing continued
	4:30 - 5:00	Individual conferences with staff members

DAY III

a.m.	9:00	The Reading Prescription
	9:30	Orienting and Planning for the Adult Student
	9:45	Planning Your Training Conference (Individual)
	10:15	Coffee Break
	10:30	Research Commitment
	11:00	Prescription Writing
p.m.	12:30	Lunch
	2:00	Flexibility in Prescription Writing
	3:00	Individual conferences as needed

PARTICIPANTS

Mr. Joe Casey
National Institute of Mental Health
Clinical Research Center
3150 Horton Road
Fort Worth, Texas 76119

Mr. Val Garner, Project Manager
Adult Basic Education Project
401 South 9th Street
Las Vegas, Nevada 89101

Mr. Lyle Leland
Adult Basic Education
Southern Nevada Vocational
Technical Center
5710 Maple Road
Las Vegas, Nevada 89109

Miss Lois Matheson
State Education Department
State Building
Albany, New York 12224

Mr. John Tracey
Albany Instructional Supervisor
State Building
Albany, New York 12224

Mr. Sven Borci
Philadelphia Adult Basic Education Academy
3723 Chestnut Street
Philadelphia, Pennsylvania 19104

Mr. George Snow
New Jersey Department of Education
225 W. State Street
Trenton, New Jersey 08625

Delores Harris
Adult Education Resource Center
Glassboro State College
Girard Road
Glassboro, New Jersey 08028

Ruth Dixon
New Jersey Department of Education
225 W. State Street
Trenton, New Jersey 08625

PARTICIPANTS CONT'D

Mrs. June Picket
Bidwell Pittsburgh Training Center Enterprises
1709 Blvd. of the Allies
Allegheny, Pennsylvania

Chuck Lamb
State Department of Education
Tallahassee, Florida 32301

Nancy Williams
Regional Opportunity Center Program
460 W. 42nd Street - 4th Floor
New York, New York 10036

Ted Turone
State Education Department
Bureau of Basic Continued Education
Albany, New York 12224

John Street
Opportunities Industrialization Center
1225 North Broad Street
Philadlephia, Pennsylvania 19121

Mr. Sydney Barmak
Pittsburgh Public Schools
Pittsburgh, Pennsylvania

Jim Schiavone
Regional Opportunity Center Program
460 W. 42nd Street - 4th Floor
New York, New York 10036

ADULT IPI: ERROR (AND PROBLEM) REPORT FORM

1. Center Name: ETC (New Jersey)

2. Name of Reporter: Paul M. Pietroski

   a. _____ student

   b. X teacher

3. Subject:

   a. X Mathematics

   b. _____ Reading

---

4. Placement Tests:

   a. X Mathematics: C Level; Money Area; 09 Page

   b. _____ Reading: _____ Level; _____ Area; _____ Page

---

5. STS Booklets:

(fill in)	(check if applicable)
a. _____ Level	e. _____ Pretest
b. _____ Area	f. _____ Posttest
c. _____ Skill Number	g. _____ CET I
d. _____ Page Number	h. _____ CET II

---

6. Describe error or problem: Group 4 - Second coin should be a quarter; it is shown as a dime.

September 1970

ADULT IPI: ERROR (AND PROBLEM) REPORT FORM

1. Center Name: Skill Center (Las Vegas)

2. Name of Reporter: R. Howe

   a. ____ student

   b. ____ teacher

3. Subject:

   a. X Mathematics

   b. ____ Reading

---

4. Placement Tests:

   a. ____ Mathematics: ____ Level; ____ Area; ____ Page

   b. ____ Reading: ____ Level; ____ Area; ____ Page

---

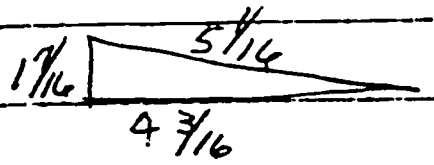
5. STS Booklets:

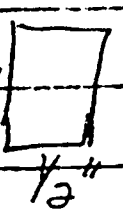
(fill in)		(check if applicable)	
a. F	Level	e. ____	Pretest
b. Geom	Area	f. ____	Posttest
c. ____	Skill Number	g. ____	CET I
d. 13 (46)	Page Number	h. X	CET II

---

6. Describe error or problem: Problems involved in measurement should be exact or a note to round off to the nearest quater inch

THE bottom polygon and the small Rectangle are INCORRECT

polygon 

Small Rect 

ADULT IPI: ERROR (AND PROBLEM) REPORT FORM

1. Center Name: Saskatchewan NewStart

2. Name of Reporter: J.A. Gordon Booth

   a. _____ student

   b. x teacher

3. Subject:

   a. _____ Mathematics

   b. x Reading

4. Placement Tests:

   a. _____ Mathematics: _____ Level; _____ Area; _____ Page

   b. _____ Reading: _____ Level; _____ Area; _____ Page

5. STS Booklets:

(fill in)		(check if applicable)	
a. B	Level	e. _____	Pretest
b. PA	Area	f. _____	Posttest
c. 5	Skill Number	g. _____	CET I
d. 8	Page Number	h. _____	CET II

6. Describe error or problem: What happens if consonants are added that give a correct word sound but not correct spelling?

ADULT [illegible]: ERROR (AND PROBLEM) REPORT FORM

1. Center Name: TOPS (Las Vegas)

2. Name of Reporter: ______

   a. ______ student

   b. ✓ teacher

3. Subject:

   a. ______ Mathematics

   b. ✓ Reading

---

4. Placement Tests:

   a. ______ Mathematics: ______ Level; ______ Area; ______ Page

   b. ______ Reading: ______ Level; ______ Area; ______ Page

---

5. STS Booklets:

(fill in)	(check if applicable)
a. D Level	e. ______ Pretest
b. AA Area	f. ______ Posttest
c. 5 Skill Number	g. ______ CET I
d. 16 Page Number	h. ______ CET II

---

6. Describe error or problem:

A poorly constructed story — difficult because of its laboriousness.

Line 7 — the word should be "paint" not "point"

ILA MATHEMATICS ACHIEVEMENT TEST

STUDENT NAME _____

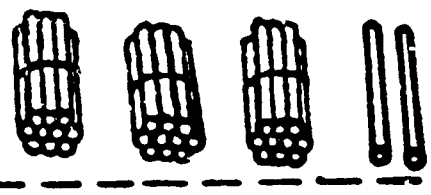
CENTER NAME _____

DATE _____

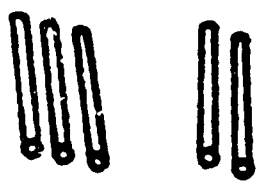
TO THE STUDENT

The questions on this test cover many areas of Mathematics. Please go through the whole booklet and answer as many items as you can. There is no time limit.

Write the number of tens and ones. (Each  has ten sticks.)



____ tens and ____ ones.



____ tens and ____ ones. (B-NPV)

Mark the smallest number in each box.

14	18	13
94	49	98
39	79	59

(B-NPV)

Write > or < to show whether the first number is greater or less than the second number. (> means greater than; < means less than.)

13 ◯ 31

78 ◯ 87

(B-NPV)

Fill in the place-value chart.

	Hundreds	Tens	Ones
138			
62			
103			

(C-NPV)

Count by twos.

75	77				

(C-NPV)

Fill in the blanks.

684 = _____ hundreds + _____ tens + _____ ones

406 = _____ hundreds + _____ tens + _____ ones

(D-NPV)

Write the missing numerals.

$.38 = \frac{\square}{10} + \frac{\square}{100}$

(D-NPV)

Write the decimal numerals for the fractions.

$\frac{5}{10}$ = _____ $\frac{21}{100}$ = _____ $\frac{3}{10}$ = _____

(D-NPV)

Write > or < in each circle.

3,957 ◯ 3,952

472,000 ◯ 471,000

217,825 ◯ 271,825

(E-NPV)

Round each numeral to the nearest hundred.

289 _____

21,089 _____

5 _____

(E-NPV)

Write the decimal numerals as mixed fractions.

6.05 _____

32.512 _____

(E-NPV)

Write the number in numerals.

two hundred six thousand, eighty-four _____

(F-NVP)

Write each product, using exponents.

Sample
$2 \times 2 = 2^2$

5 x 5 x 5 x 5 = _____

9 x 9 x 9 x 9 x 9 x 9 x 9 = _____

(F-NVP)

Circle the numbers that could appear in a base-five number system.

6 15 30 50 125 144 454 543 789 (G-NPV)

Write the letter of the answer.

The numeral 243_{five} means: _____

a) (2 × 15) + (4 × 10) + (3 × 1)
b) (2 × 25) + (4 × 10) + (3 × 1)
c) (2 × 25) + (4 × 10) + (3 × 5)
d) (2 × 25) + (4 × 5) + (3 × 1) (G-NPV)

Write each number as a number less than 10, times a power of 10.

Sample
$31.42 = 3.142 \times 10^1$

2,000,000 = _____

542.73 = _____ (G-NPV)

Write in the numerals to complete this table correctly.

Base 10	Base 8	Base 3
58	72	
		221

(H-NPV)

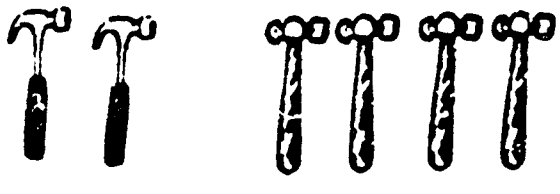
Write = or ≠ in the circle. (≠ means not equal.)

5 + 3 ◯ 6 11 - 5 ◯ 6

(B-AS)

Mark the answer.

A salesman has 2 of one kind of hammer and 4 of another kind. How many hammers does he have?



2 3 4 5 6 7

(B-AS)

Add or Subtract according to sign.

18	42	13	12
- 3	+ 75	+ 75	- 7

(C-AS)

Add or Subtract according to sign.

434	106	628	700
+ 88	382	- 449	- 32
	+ 105		

(D-AS)

Add or Subtract according to sign.

20.50	35,628	42,564
+ 9.09	- 12,039	- 3,571

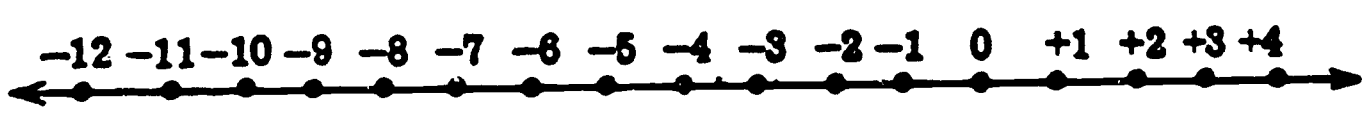
(E-AS)

Add or Subtract according to sign.

6,276	3.00521	2.69543	7.4628
37,052	2.80416	- 1.20137	- 2.084
+ 1,934	7.650		
	+ 1.00928		

(F-AS)

Add, using the number line to help you.



$(-3) + (-6) =$ _____

$(-2) + (-12) =$ _____

$(-8) + (+4) =$ _____

(G-AS)

Subtract. Write the answer as a number, times a base with an exponent.

Sample
$(2 \times 10^2) - (1 \times 10^2) = 1 \times 10^2$

$(17 \times 4^5) - (5 \times 4^5) =$ _____

$(24 \times 10^7) - (13 \times 10^7)$ _____

(G-AS)

Write the sums in the blank.

1. $(+23) + (-13) =$ _____
2. $(-26) + (+14) =$ _____
3. $(+14) + (+19) =$ _____
4. $(-32) + (-15) =$ _____

(H-AS)

Multiply or Divide according to sign.

$8\overline{)56}$ $7\overline{)28}$ $0 \div 1 =$ _____

$$\begin{array}{r} 0 \\ \times\ 3 \\ \hline \end{array}$$

(D-MD)

Multiply or Divide according to sign.

$5\overline{)92}$

$$\begin{array}{r} 327 \\ \times\ 8 \\ \hline \end{array}$$

(E-MD)

Multiply.

$$\begin{array}{r} 256 \\ \times\ 182 \\ \hline \end{array} \qquad \begin{array}{r} 59.02 \\ \times\ .7 \\ \hline \end{array}$$

(F-MD)

Divide. Write the remainders with the letter R.

$68\overline{)239}$ $78\overline{)342.42}$

(F-MD)

Divide. Write the quotient as a base with an exponent.

$10^5 \div 10^2 =$ _____

(G-MD)

Multiply.

$$\begin{array}{r} 1.82 \\ \times\ .005 \\ \hline \end{array}$$

(G-MD)

Divide. Carry the quotient to the hundredths place and round to the nearest tenth.

$$.03 \overline{)1.64}$$

(G-MD)

Solve.

$$\sqrt[3]{216} =$$

(H-MD)

Find the square root of each of the following numbers. Some square roots are given that you may find useful.

Given: $\sqrt{2} = 1.414$

$\sqrt{5} = 2.236$

$\sqrt{3} = 1.732$

$\sqrt{49} =$ _____

$\sqrt{300} =$ _____

(H-MD)

Find the products. Write the answer in exponential form.

$4^2 \times 4^3 =$ _____

$7^5 \times 7^{-8} =$ _____ (H-MD)

Find the products.

$(-4) \times (+8) =$ _____

$(+9) \times (-7) =$ _____

$(+12) \times (-8) =$ _____ (H-MD)

Divide.

$(-24) \div (+3) =$ _____

$(-27) \div (-9) =$ _____ (H-MD)

Divide and write your answers in exponential form. (H-MD)

$10^7 \div 10^5 =$ _____ $6^{-6} \div 6^6 =$ _____

Frank deposited $7.00 a week in his savings account for 9 weeks. If he then had a total of $102.00, how much did he have before he began to save? (E-COP)

The family car averaged 17 miles to the gallon. How many gallons of gas would the car use on a 272-mile trip?

(E-COP)

Write >, <, or = .

$8290 \div 2 \bigcirc 831 \times 5$

$1423 + 7 \bigcirc 286 \times 5$

(F-COP)

Solve the word problems. Label the answers.

A cable trenching crew dug $\frac{3}{4}$ mile of trench each day. How far did they dig in a 5 day work week?

(G-COP)

Your name is Ted Mills. You have a checking account at Holiday Bank. The balance is $267.43. You are making a deposit of $114.30 and writing check number 39 to Dr. William White for $24.50 to pay for an office call. The date is June 19, 1971. Complete the check and stub below.

No. ________

________ 19 __

To ________

For ________

Balance		
Deposit		
Total		
This Check		
Balance		

HOLIDAY BANK

8-9
450

________ 19 __

Pay to the order of ________ $ ____

________ DOLLARS

____

(H-COP)

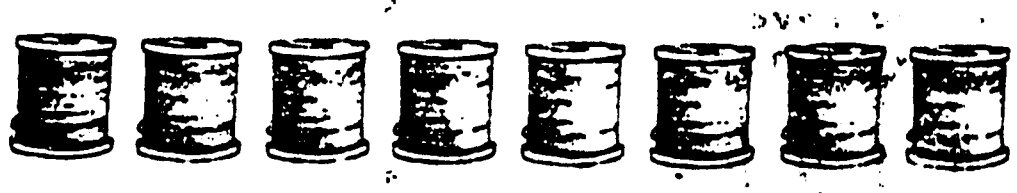
Find the annual premium for each of the following life insurance policies. Use the table below.

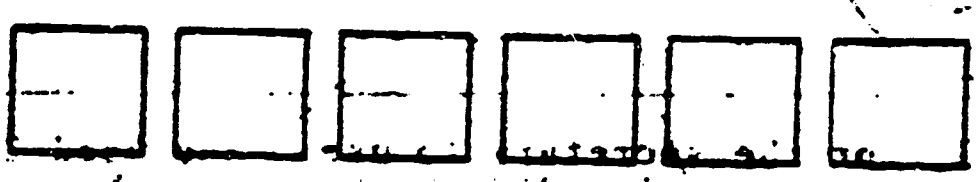
Annual Premium For a $1,000 Policy				
Age nearest birthday	10-year term	Straight life	20-payment life	20-year Endowment
20	$ 7.00	$ 16.40	$ 29.80	$ 47.55
25	7.75	18.75	32.60	48.20
30	8.85	21.70	35.75	49.00
35	10.55	25.40	39.50	50.40
40	13.20	30.00	43.85	52.40
45	17.00	36.00	49.00	55.45

Face value	Age	Kind of policy	Annual premium
$ 4,000	40	straight life	_____
$ 2,900	25	20-year endowment	_____
$11,000	45	10-year term	_____

(H-COP)

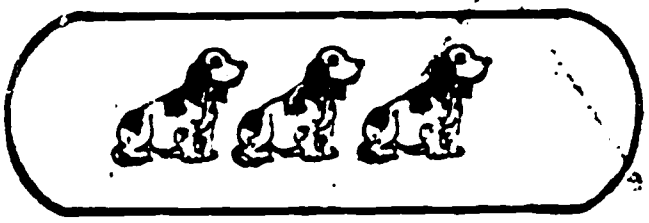
In each row, mark half of each set.





(B-F)

Ring $\frac{1}{3}$ of the set.



(C-F)

Add.

$\frac{1}{9} + \frac{1}{9} =$ _____

$\frac{1}{5}$
$\frac{3}{5}$
\+ _____

$\frac{2}{7}$
$\frac{4}{7}$
\+ _____

(D-F)

Complete the equation.

$\frac{3}{4}$ of 20 = _____ (E-F)

Add the fractions. Reduce the answer to the lowest terms.

$\frac{7}{8} + \frac{5}{8}$ = _____ (E-F)

Write >, <, or =.

$\left(\frac{3}{4} + \frac{2}{3}\right) - \frac{5}{6}$ ◯ $\left(\frac{1}{2} + \frac{1}{6}\right) - \frac{2}{3}$

$\frac{7}{8} - \frac{1}{2}$ ◯ $\frac{1}{8} + \frac{1}{4}$

$\frac{7}{8} - \frac{3}{4}$ ◯ $1\frac{5}{12} - \frac{1}{5}$ (F-F)

Multiply. Reduce the answer to the lowest terms.

$5\frac{1}{4} \times \frac{2}{7}$ = _____ (G-F)

Divide. Reduce the answers to lowest terms. (G-F)

$\frac{1}{7} \div \frac{3}{7}$ = _____

Find the value of the expressions.

$(\frac{2}{3})^{2}$ = _____ $(\frac{1}{5})^{4}$ = _____ (G-F)

Find a whole number that is equal to each of these fractional exponent numbers.

$49^{\frac{1}{2}}$ = _____ $8^{\frac{1}{3}}$ = _____ (H-F)

Mark the answer.

What is each part of a ruler called?

a foot an inch a yard

How many rulers put together make one yardstick?

two three four (B-SOM)

James delivered 2 quarts and 5 pints of ice cream to the house. How many pints in all did he deliver?

_____ (D-SOM)

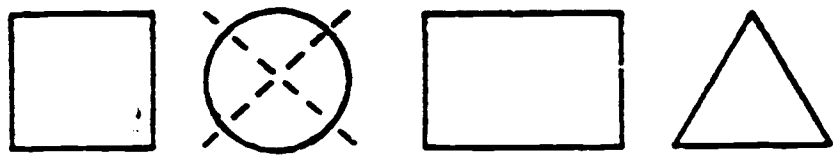
Solve the problems. Label the answers.

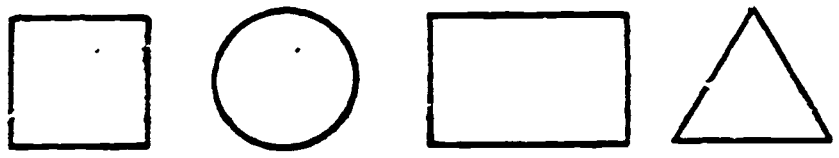
If 8 ounces of luncheon meat cost 49¢ how much would 1 pound cost?

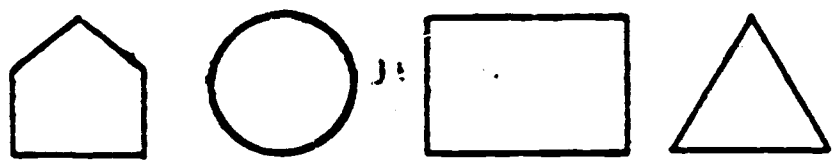
_____ (E-SOM)

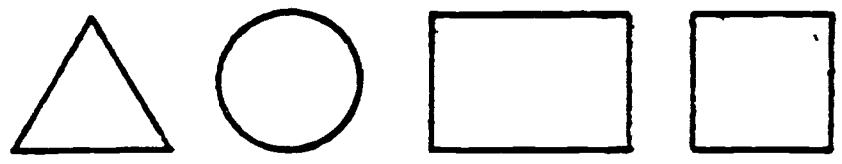
Mark the object that is named by the word.

Sample

circle 

square 

triangle 

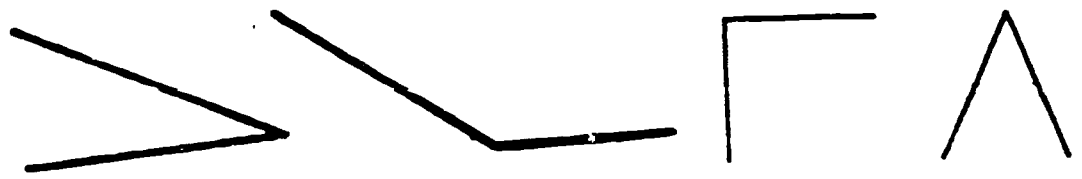
rectangle 

(C-G)

Mark the open curve.

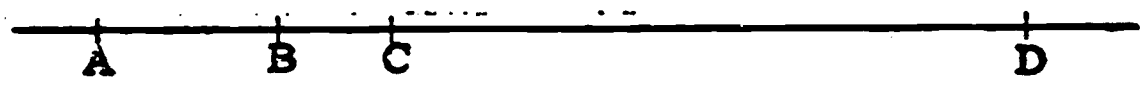
(D–G)

Mark the square corner.



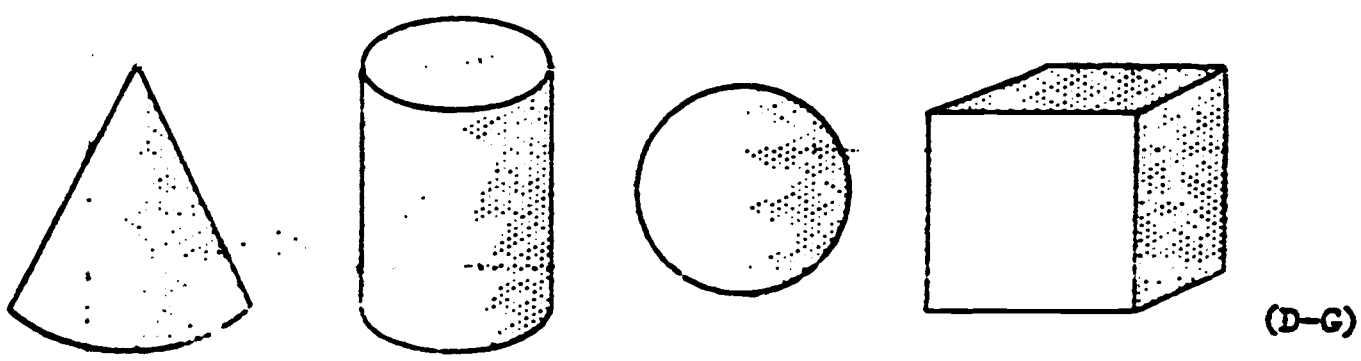
(D–G)

Mark the line segment AB.



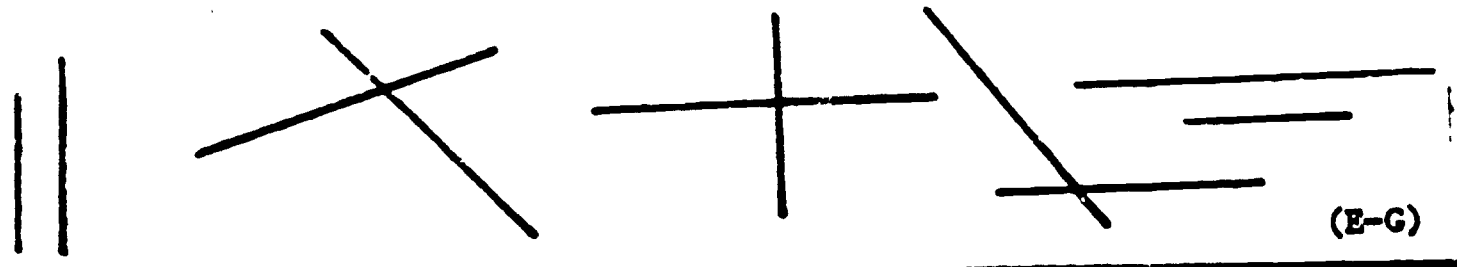
(D–G)

Mark the sphere.



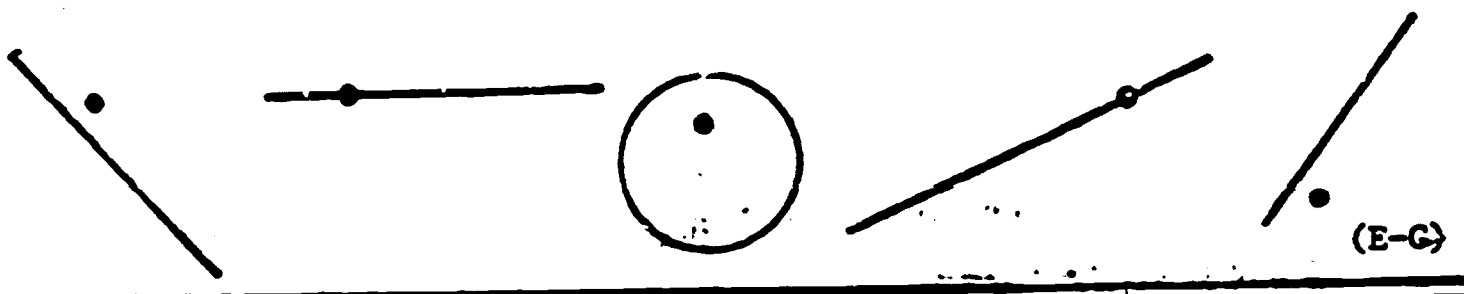
(D–G)

Mark all the pairs of intersecting lines.



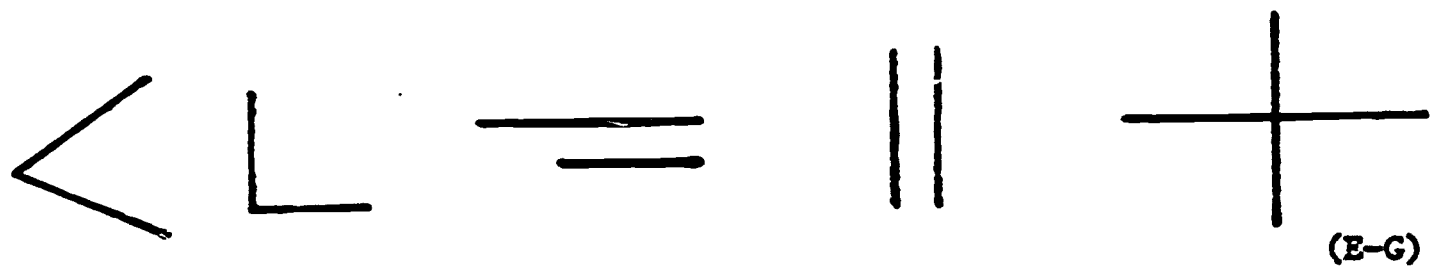
(E-G)

Circle all the lines that have a point shown on them.



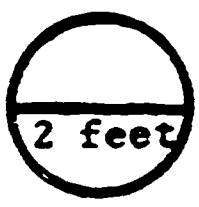
(E-G)

Mark all the pairs of perpendicular lines.



(E-G)

Find the area and circumference of the circle. Label the measurements ($A=\pi r^2$; $c=\pi d$)

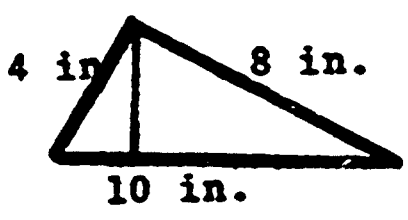


Diameter= 2 feet

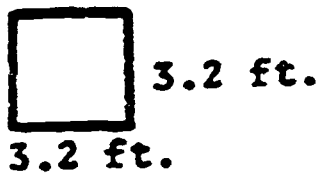
Circumference=_____

Area=_____ (G-G)

Find the perimeters:

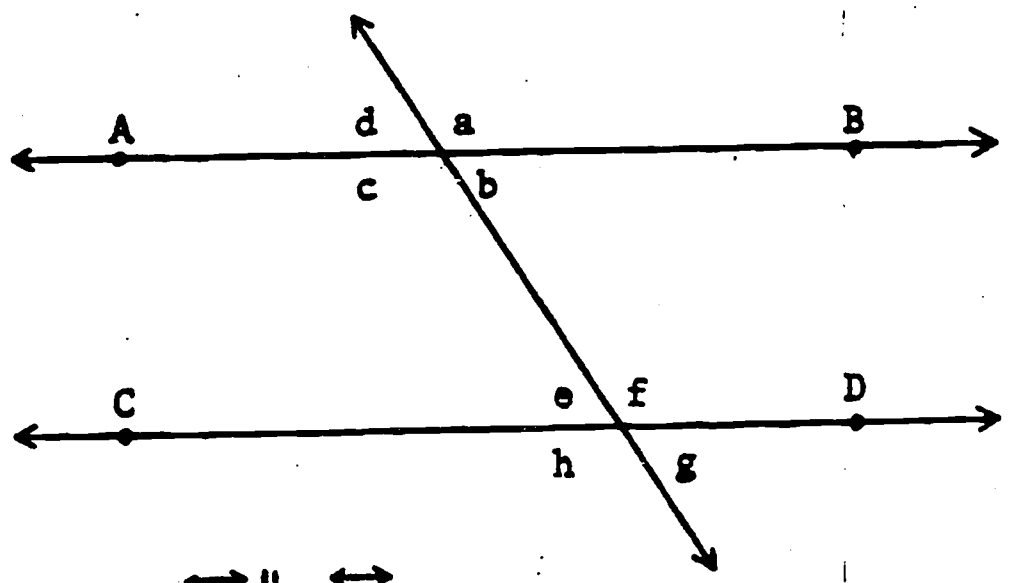


Perimeter=_____



Perimeter_____

(G-G)



In the figure above $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$.

1. $\angle$ a and $\angle$ c are a pair of _____ angles.

2. $\angle$ a and $\angle$ f are a pair of _____ angles.

3. $\angle$ b and $\angle$ e are a pair of _____ angles.

4. $\angle$ c and $\angle$ g are a pair of _____ angles.

5. If the measure of $\angle$ e is 65°, then $\angle$ f = _____$^{\circ}$; $\angle$ g = _____$^{\circ}$;

   $\angle$ d = _____$^{\circ}$; $\angle$ b = _____$^{\circ}$.

(H-G)